

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

# ANNUAL REPORT 2012

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



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## HIGHLIGHTS

### 39th congress a great success

IAH'S congress often features prominently in our Annual Report, and this year is no exception. Our Canadian hosts are to be congratulated for putting on a congress which was excellent in every respect; and all set against the dramatic background of Niagara Falls.

### At a glance – congress facts

The theme was “Confronting Global Change” and the programme included:

- 4 keynote speakers
- 575 oral presentations
- 176 posters
- Meetings of Council, National Chapters, the Early Career Hydrogeologists' Network and many of IAH's other Commissions and Networks; the General Assembly
- An array of social activities and field trips

### At a glance – attendees

There were 900 participants from 60 countries. This number included 470 from Canada, 64 from USA, 47 from Australia and 36 from China.

[Click here to read full congress report by John Chilton, IAH's Executive Manager](#)



## A new president for IAH

Out-going president Willi Struckmeier handed over the Presidency of the Association to Ken Howard following the declaration of the 2012 election results in Niagara Falls. Ken will serve for four years, and pledged to work hand in hand with the new council to build on the successes of the previous council, whom he generously thanked for their hard work.

## Council election results announced at IAH's Annual General Meeting in Niagara

As a result of the 2012 elections, IAH has six new and enthusiastic council members who are already contributing new ideas and energy to the benefit of members. The election outcome was declared by John Chilton, IAH's Executive Manager and election officer, during the Association's AGM at Niagara Falls on 17th September 2012.

[Click here to see the full election results](#)



*Professor Ken Howard, IAH's new president*

## IAH membership tops 4000

A major highlight of the year is that we have finally broken through the 4000 membership barrier. At the end of 2012 the Association had 4074 members, up by over 250 on the previous year. Membership has held up well during these tough economic times but further growth is essential for the long-term professional and financial viability of IAH and we must make more efforts to encourage students of hydrogeology and young groundwater professionals to join the Association.

## Member survey results positive

An on-line survey set up by the IAH Secretariat in mid 2012 focused on fees and member benefits. Overall, 80% of respondents felt that IAH provides value for money. 77% felt that the membership fee was at about the right level but 20% felt it was too high. Free access to the journal, newsletters, national and international meetings and congress and book discounts all featured as important member benefits. The results of the survey can be seen in the December 2012 newsletter at [iah.org/news-information-magazine](http://iah.org/news-information-magazine)

## Early career professionals in IAH

The Early Career Hydrogeologists' Network was very active in Niagara Falls, with pre-congress courses, its formal annual meeting and social event and actively participating in technical sessions. A dedicated poster session with prizes was organised. The network's LinkedIn group continues to grow and the group is actively planning a programme of activities for the Perth congress in 2013.

[Click here for more](#)

## Two new interviews for the Time Capsule Project

In 2012 interviews with Allan Freeze and Gedeon Dagan have been taped and edited.

[Click here for more](#)



## SCIENCE, KNOWLEDGE AND EDUCATION

IAH takes its educational responsibilities very seriously by making available the results of scientific research through publishing a journal and book series. Our commissions and networks contribute extensively to our published output, and their work is also directed towards improved understanding of groundwater. As part of the Association's Forward Look strategy, we are also strengthening our efforts towards better appreciation of the importance of groundwater through printed and electronic news and via a redesigned website.

### Hydrogeology Journal

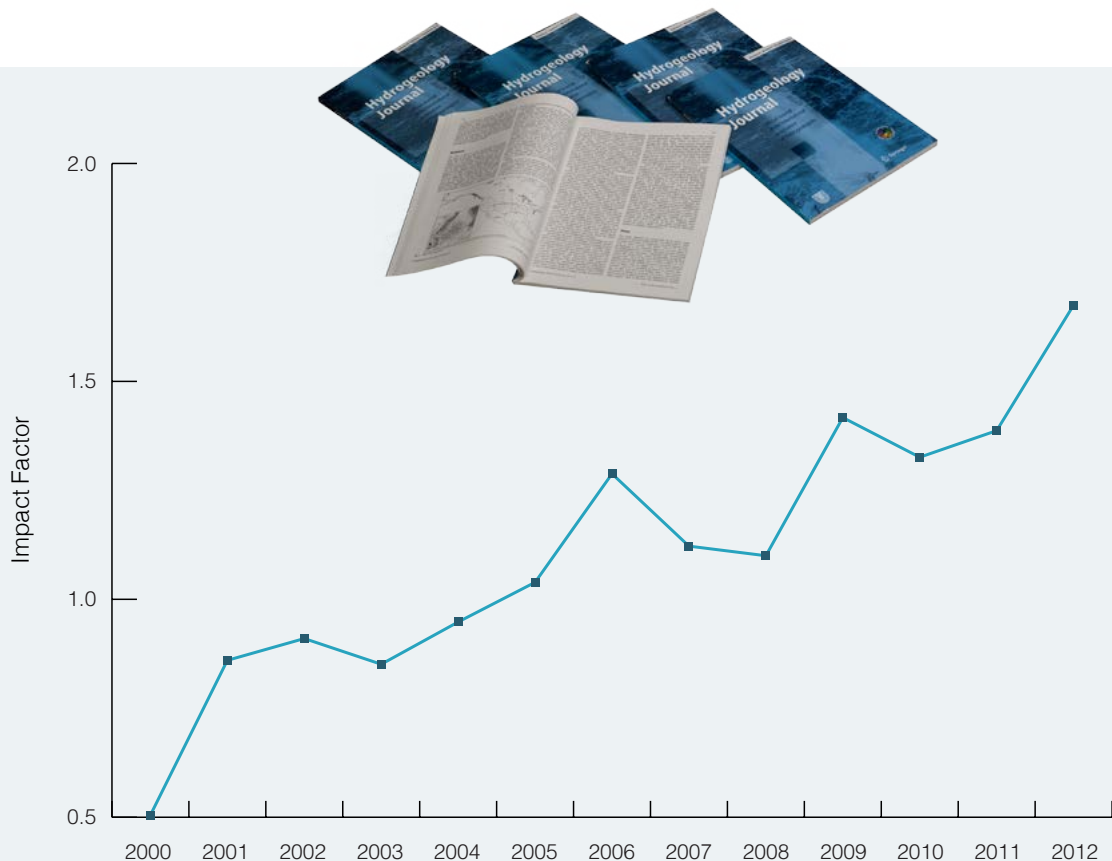
The Hydrogeology Journal is our main publishing activity and continues to grow in scientific stature as a premier journal for groundwater professionals, with eight issues totalling around 1650 pages per year. Maintaining a balance between high impact factor and broad geographical spread of authors and content remains a key objective. The 2012 impact factor of almost 1.7 is comparable to similar journals and shows a steady overall rise in recent years, as shown below.

The number of submitted manuscripts continues to increase – up from 200 each year in 2003 to 384 in 2012. To meet the target of 8 issues of 1650 total pages, around 150 papers can be accepted.

The journal editorial team is widely dispersed around the world and meets approximately every 18 months, the last time being in Vienna in December 2012.

While the current mode of operation is highly successful and neither IAH nor our publisher sees any immediate need to change it, a key issue for the future is the rise of open access publishing. Obviously a large international company such as Springer has its finger on the pulse of the changing publishing environment and is already embracing open access for some of its journals. Our journal team keeps the situation under review alongside our publisher, regularly reporting back to IAH Council.

An important component of editorial team discussions is the need to keep a close eye on the time from submission to acceptance, online and printed publication as this is an important factor in author choice when submitting papers to a journal.



## Books

2012 sees the publication of the first two books with updated internal layout and cover design. These were the International Contributions to Hydrogeology (ICH 28) book on the History of Hydrogeology edited by Nicholas Howden and John Mather ([view here](#)) and the Special Publications series, SP 17, "Groundwater Quality Sustainability" ([view here](#)) This was edited by Piotr Maloszewski, Stanisław Witczak and Grzegorz Malina and draws selected papers from the IAH Krakow congress. The previous "blue book" ICH 27 on climate change and groundwater continues to sell very well. ICH 29 by Luis Ribeiro on statistical methods in groundwater research is well underway. Special Publications (green books) of selected papers on groundwater and ecosystems from the IAH congress in Lisbon and from IAH supported conferences in Prague and Pretoria and a volume of conference papers on calcium and magnesium in groundwater are in preparation.

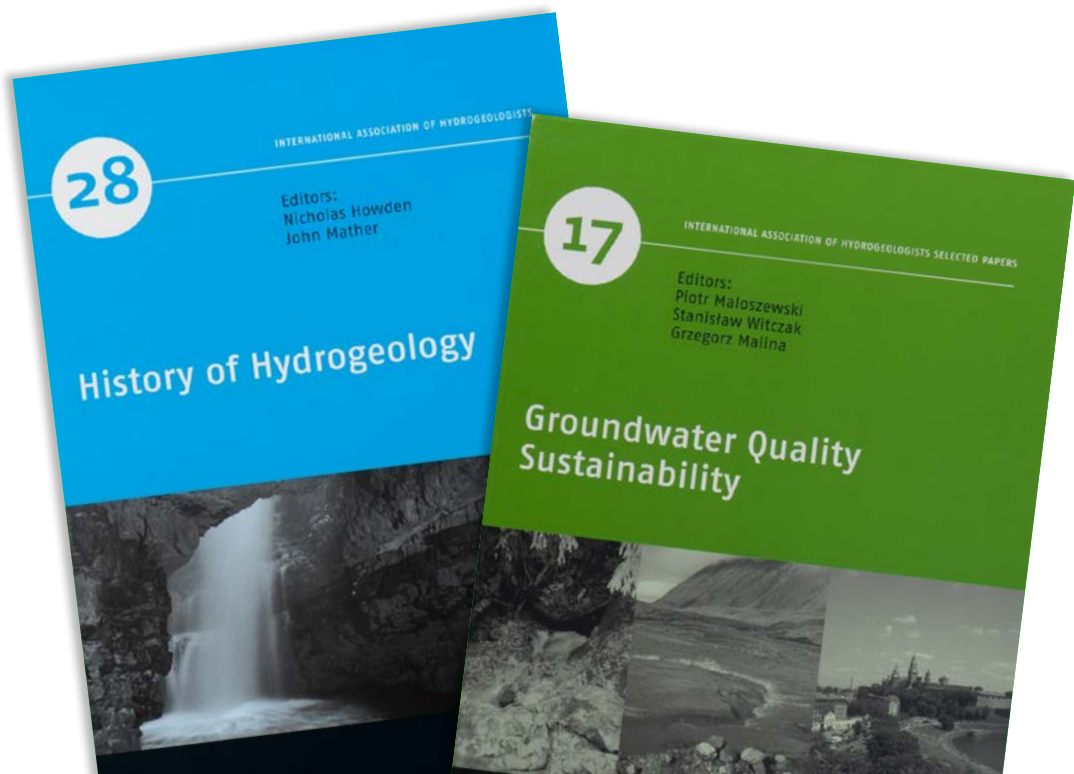
In our increasingly time-constrained world, the substantial space and time required for book writing is harder to find, and this affects all learned societies and their publishers. The resulting lack of proposals for ICH books continues to be a cause for concern, and we need to encourage everyone in IAH to support the series, both by buying the books and coming forward with ideas. If you are thinking of embarking on a book, please think of IAH first. Otherwise the series could become fragmented and we could be at risk of losing it. If you have good ideas, contact the books editor, Nick Robins at [books@iah.org](mailto:books@iah.org).

## News and information

The printed News and Information can be seen as the Association's magazine, with a broadening range of articles and topics which may be of interest to the wider groundwater community as well as to IAH members. It continues to be produced three times each year. Following the redesign and introduction of full colour printing in 2010, we have endeavoured to broaden the scope of the newsletter to include topical news and features about groundwater from the media as well as news of the Association. As a result of this and of receiving larger numbers of contributions from IAH's chapters, commissions and individual members, the three 2012 issues have ranged from 20 to 32 pages with a good mixture of shorter and longer news items, compared to the 12 to 16 pages previously. The Secretariat will continue to work to improve the quality of the newsletter, but as always we depend on the contributions of members to balance the routine information with more unusual news of IAH and groundwater activities around the world.

## E-news

The IAH e-news, which is produced regularly throughout the year, provides shorter news items, announcements and alerts. It is emailed to IAH members and freely to individuals who have subscribed via our website. IAH is planning to improve its methods for disseminating e-news and journal alerts to both members and non-members. The changes will come into effect in 2013.



## IAH's Commissions and Networks

IAH's commissions and networks have a variety of objectives, including:

- contributing to the science of groundwater
- providing benefits to members
- undertaking outreach, education and training activities.

Following a comprehensive review of the structure and operation of the IAH commissions, mid 2011 saw the rejuvenation of many of the existing commissions and the establishment of a new array of commissions and networks. A primary objective of the review was to enable the Association to respond to new issues and challenges and to encourage new partners for our work.

We are pleased to report that already many of the new commissions and networks have been hard at work during 2012 by organising sessions at the IAH congress in Niagara Falls, co-convening technical meetings and field excursions with other societies, hosting workshops and training courses and preparing publications. [To find our more click here](#)

Another important objective is to make the commissions and networks more open and welcoming. Wide involvement from the groundwater community is encouraged, as this will help the groups to thrive and give greater authority to their work. Participation is not limited to IAH members. IAH's commissions and networks are listed below, together with contacts for further information and enquiries. Information about the activities of the commissions and networks can be obtained from the IAH website. Proposals or ideas for commissions or networks are always welcome and an application form can be obtained by emailing. [info@iah.org](mailto:info@iah.org).

### Commissions

Groundwater and Climate Change	<a href="mailto:r.taylor@geog.ucl.ac.uk">r.taylor@geog.ucl.ac.uk</a>
Groundwater Outreach	<a href="mailto:astone@agwt.org">astone@agwt.org</a>
Karst Hydrogeology	<a href="mailto:Goldscheider@kit.edu">Goldscheider@kit.edu</a>
Managing Aquifer Recharge	<a href="mailto:Peter.Dillon@csiro.au">Peter.Dillon@csiro.au</a>
Mineral and Thermal Waters	<a href="mailto:JLamoreaux@pela.com">JLamoreaux@pela.com</a>
Regional Groundwater Flow	<a href="mailto:szjudit@ludens.elte.hu">szjudit@ludens.elte.hu</a>

### Networks

Burdon Groundwater Network	<a href="mailto:amm@bgs.ac.uk">amm@bgs.ac.uk</a>
Early Career Hydrogeologists'	<a href="mailto:Judith.fluegge@grs.de">Judith.fluegge@grs.de</a>
Groundwater and the MDGs	<a href="mailto:nasghar@csu.edu.au">nasghar@csu.edu.au</a>
Coastal Zone Dynamics & Coastal Zone Management	<a href="mailto:Barrocu@unica.it">Barrocu@unica.it</a>
Fractured Rock Hydrogeology	<a href="mailto:uwe-troeger@tu-berlin.de">uwe-troeger@tu-berlin.de</a>
Groundwater and Ecosystems	<a href="mailto:jgurrieri@fs.fed.us">jgurrieri@fs.fed.us</a>
Urban Groundwater	<a href="mailto:gwater@scar.utoronto.ca">gwater@scar.utoronto.ca</a>



# SUPPORTING MEMBERS

## National chapters

Active IAH national chapters are an important way of bringing scientific, professional and social benefits to our members, and also provide the Association with the means to promote sound and sustainable groundwater use at the country level. Chapters retain 10% of the IAH membership fee to help support their own activities and many collect the fees in local currency for the convenience of their members.

The number of IAH National Chapters now stands at 42, and efforts are underway to establish more. Chapters range greatly in size, depending on the size of the country and number of groundwater professionals, and the presence of a national association or geological society offering similar member benefits. The largest IAH chapter with more than 600 members is Australia, followed by Canada, Spain and the USA with around 280 each, and then the United Kingdom with 220 and France, Italy and Germany with about 150 each. Australia and Canada are such large countries that IAH meetings and activities are held at State and Provincial level respectively. Some of the smaller chapters are active with 20 – 40 members.

National chapter committees are run on a voluntary basis by members and we are very grateful for their efforts. In 2012, new committees were elected in several chapters, including Italy, Spain and Great Britain, and the new committee in Italy has doubled its membership during the year. For the latest chapter listing, go to [iah.org/groups/national-chapters](http://iah.org/groups/national-chapters)

[Click here to read a fuller report of the activities of some of our chapters](#)

## Sponsored members

Our sponsored members' scheme enables membership to be offered to groundwater professionals who, for practical or financial reasons, are not able to pay their own fee. We know that sponsored membership is greatly appreciated by the recipients, and in addition to the support from individuals and National Chapters, IAH has a central Sponsored Membership Fund, established as a key charitable activity. At the end of 2012, we had a total of 245 sponsored members funded by these various means.

## Mentoring scheme

IAH made the first steps towards establishing a new mentoring scheme during 2012, with the intention of providing support to members in three important areas:

- the academic - providing advice and technical knowledge on various topics within the many strands of hydrogeological science;
- career options and pathways – providing guidance on job types and locations, CVs, interviews, networking, courses and training opportunities;
- practical experience – case studies, local hydrogeological knowledge of specific regions or aquifer types, and volunteering to undertake short assignments.

It soon became clear that the Association would need to develop simple Terms and Conditions or guidance for the mentoring scheme to cover such issues as the personal rather than institutional nature of the specific advice, care with regard to endorsement of specific products or courses, maintaining confidentiality and not abusing trust. IAH engaged a career development specialist with substantial experience of mentoring schemes and processes both in the UK and internationally to help with this.

A review of the first registrations was undertaken in late 2012 and the initial mentor/mentee partnerships established. We are aware that this is a big step for the Association, but believe it to be clearly in line with the changing needs of our members and look forward to their active participation as both givers and recipients in the mentoring scheme.





## INTERNATIONAL ACTIVITIES

### Advocacy

IAH continues to believe that the place of groundwater within integrated water resources management is not well enough understood and appreciated in the international arena. Our advocacy efforts are directed towards highlighting groundwater on the global water agenda, increasing recognition of its importance and ensuring that the views of hydrogeologists are heard more widely.

### IAH at the sixth World Water Forum

IAH was involved in convening two sessions at the sixth World Water Forum in Marseille and participated in several other sessions and side events. These global gatherings attract thousands of people and the programme of sessions, discussions, meetings, and exhibitions is on a huge scale. It is good to be present to ensure that the voice of the profession can be heard.

IAH participants came away from the forum with the clear view that water links to practically all aspects of national and international relations. The forum ended with a Ministerial Declaration undertaking to address the many key present and future water issues. However such declarations have limited impact unless civil society, professional bodies and NGO's actively engage in dialogue with their own governments. In this connection, IAH with its many national chapters is in a good position to promote the integration of the science of hydrogeology into water policy.

### ... and at Planet Under Pressure

IAH participated in the international conference "Planet Under Pressure" in London, contributing to the sessions on integrated water management. IAH was represented by Secretary General Shammy Puri, Alan MacDonald, chair of our Burdon Network and Richard Taylor, chair of the Climate Change Commission. Their contributions to the panel discussions stressed that aquifers provide key buffers in times of drought and that good land management and changes in practices are key to ensuring that aquifer replenishment continues for sustainable development. More information can be obtained from the conference web site, [planetunderpressure2012.net](http://planetunderpressure2012.net).

### IAH Distinguished Associate

The Association also seeks to promote groundwater by making its Distinguished Associate Award to a person who is not a groundwater professional but has made an outstanding contribution to the understanding, development, management and protection of groundwater resources internationally. The 2012 award went to Dr Uschi Eid, Vice-Chair of the United Nations' Secretary General's Advisory Board on Water and Sanitation (UNSGAB) in recognition of her active role in promoting water supply and sanitation issues on the political development agenda. She fought at a high level for the water and sanitation related Millennium Development Goals, for the International Year of Sanitation and for a new Sustainable Development Goal on Sanitation and Wastewater Management. IAH was pleased to acknowledge Uschi's personal contribution to the enhancement of wastewater management and groundwater protection worldwide with this award.



*The 2012 award went to Dr Uschi Eid*

Further details of the Association's awards can be seen at: [iah.org/about/awards](http://iah.org/about/awards)



## Collaboration

On the basis that joint activities can often maximise the benefits from the efforts of individual partners, IAH has long collaborated with like-minded scientific organisations and members of the international water community. Sometimes these relationships have grown up informally over time and in other cases more formal agreements have been established. During 2012 IAH signed two new Memoranda of Understanding (MoUs) to support our international collaboration.

### International Groundwater Assessment Centre

The first with the International Groundwater Assessment Centre (IGRAC) based at Delft in the Netherlands will strengthen our scientific and technical partnerships. While IGRAC and IAH have already been working together for some years, the MoU formalises and simplifies cooperation between the two. The opportunity was taken to discuss possible activities and opportunities to combine efforts and expertise to enhance collaboration on international groundwater assessment projects. The scope of IGRAC's work programme can be seen at [un-igrac.org](http://un-igrac.org).



*IAH President Willi Struckmeier and Dr Neno Kukuric, Director of IGRAC, signing the MoU at the World Water Forum in Marseille.*

### African Groundwater Network

The second MoU was with the African Groundwater Network [agw-net.org](http://agw-net.org), with whom IAH's Burdon Network has had informal links for some time. This will greatly enhance the ability of IAH to meet its international development objectives by formally linking the resources of own Burdon Network and Fund to a wide network of groundwater professionals in Africa, many of whom are also IAH members. As an immediate outcome, the Burdon Fund provided support to an African Groundwater Network training course in Lusaka in April with course material and by providing support for three participants.

## The GEF groundwater governance project

The Association continues to advocate for improved governance and policy provisions, backed up by suitable institutional arrangements. These aims can be realised by participating in international projects. IAH is a partner with the UN's Food and Agriculture Organisation (FAO) and UNESCO in a three year project on groundwater governance which aims to accelerate the adoption of improved groundwater governance by developing a global framework for action based on regional and local experiences.

In 2011, the first year of the project, IAH commissions and individual members produced four thematic papers on key groundwater governance and management issues. In the second year of the project the main activity was a series of regional consultations. These were intended to enable the project to gather experience and perspectives from the regions to support the information provided by the thematic papers. Regional consultations were held for Latin America and the Caribbean in Montevideo, for Sub Saharan Africa in Nairobi, for the Middle East and North Africa in Amman and for Asia in China during 2012 and for Europe in March 2013. IAH members were active participants in all of these. More information about the project, the thematic papers and reports on the regional consultations can be seen at [groundwatergovernance.org](http://groundwatergovernance.org).

## WHYMAP

One of IAH's longest scientific collaborations has been with the Worldwide Hydrogeological Mapping and Assessment Programme (WHYMAP). This joint programme of UNESCO, CGMW (Commission for the Geological Map of the World), IAH, IAEA and BGR (the Federal Institute for Geosciences and Natural Resources, Germany) was established in 1999. WHYMAP collects, compiles and collates groundwater related information at continental and global scales to aid global discussion of water issues by making groundwater resources more visible. A new map of "River and Groundwater Basins of the World" was launched at the World Water Forum in Marseille to help water resource policy makers visualise the interaction between surface water systems and the underlying groundwater resources and to promote their conjunctive use and management. More information is available at [whymap.org/whymap](http://whymap.org/whymap).



## FINANCE

The Association has had a sound year financially, as shown in the accompanying summary statement of financial activity for 2012. The world continues to provide an uncertain economic and financial environment for all, with particular risks for charitable organisations such as IAH, and we have to pay careful attention to managing and mitigating financial risks.

### Managing IAH's finances

IAH's finances are taken care of by a team comprising our bookkeeping contractor, the Secretariat and the Association's accountant, overseen by and reporting to the IAH Executive and Council. During the year, quarterly statements of income and expenditure are prepared and submitted to the Executive and Council, and following the year end, an outturn for the year and preliminary budget for the new year is presented to the Executive in February. Formal accounts are prepared by the Accountant by the middle of the year, approved by Council and then by members at the AGM, and submitted to Companies House and the Charities Commission by the end of September each year.

Fluctuating currency exchange rates continue to provide a challenge to the financial management of IAH in both accounting and budgeting. As part of its overall risk management strategy, the Secretariat endeavours to minimise the impacts of this by spreading IAH's funds between pounds, dollars and euros.

### Income and expenditure

Total income at £288,000 was £3000 up from 2011. As shown in the table, this partly reflects the increase in membership highlighted elsewhere in this report, partly the modest investment income, and partly an increase in donations from the transfer of funds from the Association's trading company.

Total expenditure of £294,000 has risen slightly from 2011. Routine expenditure on services to members from printing and publishing and on management and support costs shown in the summary statement was much the same as in the previous year. 2012 saw the detailed planning and initiation of a major new activity – the redevelopment of the IAH website, and the first installment of £8300 of the web design contract was made in 2012, as shown in the table.

Travel costs at £37,000 remain high, but not as high as in 2011 (£59,000) despite again having a second Executive meeting in the UK in June. During the year there were costs so that IAH could be present at international events to advocate for better groundwater management and stronger hydrogeological science. In addition to the two major events mentioned on page 9, these included the IGC conference in Australia, the UNESCO IHP governing council, Stockholm Water Week and the AHLSDUD congress in Cartagena de las Indias.

Improving IAH's congresses and strengthening our national chapters, as identified in our Forward Look strategy, also requires increased travel. These are important components of our efforts to raise the profile of IAH and to promote membership. In 2012, these included visits to India to the IGWC conference, to Australia and Morocco to consult on the preparations for upcoming IAH congresses and to Thailand and Mexico to meet the IAH national chapters.

Expenditure from the Burdon Fund (£7000) Education and Development Fund (£21,000) and Sponsored Membership Fund (£4700) were all up on 2011 (the first two substantially), reflecting the continuing efforts of the Association to use its resources to meet its charitable and educational objectives.

### Trading activities

The company WorldWide Groundwater Limited was established as the trading subsidiary of the Association. Following a period of dormancy from 2008 to 2010, the company was re-activated at the beginning of 2011 to enable IAH to undertake consultancy work in partnership with FAO and UNESCO on a GEF (Global Environment Facility) project on groundwater governance. In 2012 four consultancy contracts for the preparation of thematic papers for the project were completed. The company had a turnover for the year of £55,000, the income coming in contract payments from FAO which were used to pay for work on these contracts and the balance of £35,600 was returned to IAH during the year to avoid liability to UK corporation tax.

### Overall financial performance

Despite setting a deficit budget, the difference between income and expenditure in the table shows a small operating loss of £6,400 which, with net foreign exchange losses produces an overall annual deficit of £11,400. Overall, IAH remains in a strong financial position with a total balance of funds of £246,000 at the end of 2012.



INTERNATIONAL ASSOCIATION OF HYDROGEOLOGISTS  
Statement of Financial Activities for the year ending 31 December 2012

<b>Incoming Resources</b>		£	£	EUR(€)	USD(\$)
Membership fees			199,407	245,909	324,216
Contract and subvention income			24,585	30,318	39,973
Investment income			1,551	1,913	2,522
Donations			41,356	51,000	67,241
Royalties			20,631	25,442	33,544
Miscellaneous			251	310	408
<b>Total resources received</b>			<b>287,781</b>	<b>354,892</b>	<b>467,903</b>
<b>Resources Expended</b>					
Member services	Salaries	18,436			
	Printing and publications	114,659			
	Other	23,857	156,952	193,553	255,188
Donations and grants payable			30,603	37,740	49,757
Support costs	Salaries	25,524			
	Travel and subsistence	37,149			
	Printing, stationery and database administration	6,571			
	Website development	8,280			
	Other	6,337	83,861	103,417	136,350
Management and administration of the charity	Salaries	14,693			
	Strategic review and training	1,381			
	Accountancy fee	1,500			
	Other	0	17,574	21,672	28,574
Finance costs (bank charges) and depreciation			5,227	6,446	8,499
<b>Total resources expended</b>			<b>294,217</b>	<b>362,828</b>	<b>478,367</b>



	£	EUR(€)	USD(\$)
<b>Net Income / Expenditure</b>	(6,436)	(7,937)	(10,464)
Net foreign exchange gains / (losses)	(4,952)	(6,107)	(8,051)
<b>Net Incoming resources</b>	(11,388)	(14,044)	(18,516)
<b>Balance brought forward at 1 January 2012</b>	257,615	317,691	418,856
<b>Balance carried forward at 31 December 2012</b>	246,227	303,647	400,340

### Balance sheet as at 31 December 2012

	2012 £	2011 £	2012 EUR(€)	2011 EUR(€)	2012 USD(\$)	2011 USD(\$)
<b>Fixed Assets</b>	2	461	2	569	3	750
<b>Current Assets</b>						
Cash and debtors due	259,566	295,812	320,097	364,795	422,028	480,961
<b>Creditors</b>						
Amounts due within one year	(13,341)	(38,658)	(16,452)	(47,673)	(21,691)	(62,854)
<b>Net Assets</b>	246,227	257,615	303,647	317,691	400,340	418,856
Represented by:						
Unrestricted Funds	195,863	200,241	241,538	246,937	318,454	325,572
Burdon Fund	50,364	57,374	62,109	70,754	81,887	93,284
<b>Funds</b>	246,227	257,615	303,647	317,691	400,340	418,856

**Statement by the Association's reporting accountant:** These summarised accounts are extracted from the full financial statement of the Association which were subject to an unqualified report by Locke Williams Associates LLP, Blackthorn House, St Pauls Square, Birmingham, B3 1RL. The independent examiners have confirmed that the summarised accounts are consistent with the full annual financial statements and the Trustees' Annual Report of International Association of Hydrogeologists for the year ended 31 December 2012. The annual report and accounts were adopted by the IAH Council on 29 July 2013 and will be submitted to the Charity Commission and the Registrar of Companies.

These summarised accounts may not contain sufficient information to gain a complete understanding of the financial affairs of the Association. For further information, the full accounts, the reporting accountants' report on those accounts and the trustees' annual report should be consulted; copies of these can be obtained from the IAH International Office or downloaded from [www.iah.org](http://www.iah.org).

Throughout this report the conversion from sterling (£) to Euro (€) is at the rate of €1.2332 = £1 and (3) to US Dollar (\$) is at the rate of \$1.6259 = £1.



# ADDITIONAL CONTENT



IAH 39th congress, Niagara, Canada  
 report by John Chilton, Executive Manager

Having been nervous earlier in 2012 about whether there would be enough abstracts submitted and the likely numbers of participants, the congress turned out to be so popular that in July the rare step of closing registrations and setting up a waiting list had to be taken. This was easily the best attended IAH congress and the local organisers managed the numbers very well.

Participants enjoyed a very full week of plenary presentations, parallel sessions and poster presentations and will have taken away with them warm memories of their time in Canada and of the congress. To provide a strong and broad basis for the overall congress theme of “Confronting Global Change”, the four invited speakers Joe Tóth, John Cherry, Alan Freeze and Frank Schwartz each packed the Great Room of the Sheraton’s conference centre for their keynote presentations. It was a privilege for so many colleagues to be able to listen to these four “grandees” of Canadian hydrogeology, and moreover a shrewd move on the part of the congress organisers to spread these keynotes through the conference week.

While of course very gratifying, the large number of good quality abstracts submitted presented the local organising committee with a difficult scheduling task. Of the total of 971 abstracts submitted, only a few were rejected at the outset but over 200 accepted abstracts were not included in the congress programme because the authors had not registered by the deadline of 15 June. This left 751 abstracts to be fitted into the technical programme! For much of the week,

therefore, eight parallel sessions were needed to cope with all of these. This is far higher than we have had at past congresses, and the scientific committee are to be congratulated for their hard work setting up such an excellent technical programme and in managing it so efficiently through the whole week.

The large attendance also presented some logistical challenges for the mid-congress field visits. For several of these, transport was arranged so that participants started from both ends of a trip to avoid congestion at small sites with limited access and to spread the burden on hosting partners and their staff and facilities, and this worked well.

The full congress programme still provided time for the Association’s own meetings. The visitor centre beside the Horseshoe Falls was able to accommodate all the congress participants to an excellent buffet supper, during which we were able to go down in small groups into tunnels excavated into the rock behind the falls and come out into the spray to the side of the wall of falling water (see picture).

From reactions during and after the congress, participants thoroughly enjoyed their time in Niagara, and our hosts on the organising committee and their many helpers and supporters are to be congratulated on a job well done. This stupendous effort really sets the bar high for those who follow!

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## IAH Council Elections

**2012 votes cast 1205 from 3850 (31.3%)**

President	Ken Howard	1119
Secretary General	Shammy Puri	1085
Vice President, Finance and Membership	Bruce Misstear	1102
Vice President, Science and Programme	Antonio Chambel	1077
Vice President, Asia	Jun Shimada	532
Vice President, Australasia	Wendy Timms	691
Vice President, Eastern Europe	Igor Zektser	952
Vice President, Western Europe	Teodora Szocs	613
Vice President, Latin America	Luiz Amore	991
Vice President, Middle East	Mohamed Aboufirass	979
Vice President, North America	David Kreamer	1012
Vice President, Sub Saharan Africa	Callist Tindimugaya	1001

Full information regarding our Council can be found on our website: [iah.org/about/council](http://iah.org/about/council)

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## The Time Capsule Project

The Time Capsule Project continues its efforts to record the work and life of some of the pioneers of hydrogeology and of IAH. In 2012, two interviews have been taped and edited: Allan Freeze by his son Geoff (hydrogeologist at Sandia National Laboratory), and Gedeon Dagan by Aldo Fiori (Università di Roma Tre, Italy). The first of these videos was sponsored by the Sandia National Laboratory and the second had support from Tel Aviv University. Both of these have been edited in preparation for posting on the Time Capsule website. Jean Margat was interviewed in July 2012 by a panel of French hydrogeologists (Bernard Blavoux of the University of Avignon and Nathalie Dorfliger, Laurence Cherry, Serge Lallier, and Damien Salquebre from BRGM) and this video is being edited by BRGM.

In addition to the production of these video interviews, the main activity in 2012 has been to rebuild the web site, [timecapsule.iah.org](http://timecapsule.iah.org) which will become available in 2013. Plans for 2013 include interviews with John Cherry and Mary Anderson. Visits to the website were up again in 2012 compared to 2011, and IAH continues to provide financial support to the Time Capsule Project as part of its educational programme.

## IAH Membership by Region (end of year figures)

The table shows recent membership trends by region, emphasising the need for us to pay greater attention to promoting membership in Asia, the Middle East and North Africa, Eastern Europe and in Latin America.

Region	2005	2006	2007	2008	2009	2010	2011	2012
Sub-Saharan Africa	206	202	204	200	247	231	233	267
North Africa & Middle East	84	78	90	90	74	99	97	101
Asia	238	265	263	288	214	191	191	229
Australasia and the Pacific	502	477	496	493	599	582	656	799
Eastern Europe	338	351	365	355	145	125	122	124
North America	704	695	685	669	672	654	632	659
Latin America & Caribbean	213	211	207	194	177	177	197	179
Western Europe	1539	1485	1545	1496	1796	1726	1656	1716
Total	3824	3763	3857	3786	3894	3785	3784	4074

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## Early Career professionals in IAH

IAH's Early Career Hydrogeologists' Network (ECHN) continues to go from strength to strength. The Niagara Falls Congress was a resounding success for early career hydrogeologists, encouraging their involvement in IAH matters, encouraging networking and developing their professional knowledge and careers. The ECHN was able to offer a dedicated early career poster session, its annual meeting and a social function. Of the 900 delegates, 180 were registered as students and around 400 identified themselves on the congress registration form as ECH's. Congress week started with an attractive selection of short courses, ranging from field methods to conceptual modeling. One of the highlights was the half-day course on "The Art of Writing Successful Scientific Papers" by books editor Nick Robins, which provided participants with a useful toolbox of "do's and don'ts" for authoring.

During Congress, the ECHN annual meeting was held, and the 70 junior hydrogeologists attending were updated on the network's aims and objectives. A highlight of the function was the subsequent photo scavenger hunt: certain hydrogeologic and IAH related keywords had to be matched with photos taken by the groups, providing interaction with more senior IAH colleagues, sightseeing and fun! The winner of the scavenger hunt was the group "Debye-Hückel" for special creativity and photographing the most keywords. To round off the evening, participants had a chance to network and socialize, enjoy some drinks and view the collected artwork from the scavenger hunt.

During the congress session "Groundwater for Decision Makers" convened by Andrew Stone, the Network presented an introduction to ECHN and its aims by Matthys Dippenaar and Viviana Re, followed by a lively discussion between members of the ECHN, the new IAH Commission on Groundwater Outreach and the audience on the role of early career hydrogeologists as groundwater advocates.

Special focus was given to early career hydrogeologists and their work during the "Showcasing Early Career Hydrogeologists" poster session. The excellent quality of the contributions gave judges Ian Acworth and Bruce Misstear a hard time in selecting the prize winners. Third prize was awarded to Nathan Green (Canada) for his poster "An evaluation of the importance of factors influencing seawater intrusion in coastal aquifers subject to climate change: A case study from Atlantic Canada", while the first

prize was awarded jointly to Lindsay McMillan (UK) for the poster "Rigorous sampling in long-screen wells" and to Genevieve Bordeleau (Canada) for the poster "The use of nitrogen and oxygen isotopes to distinguish nitrate sources in groundwater at anti-tank training ranges".

During the Congress the ECHN LinkedIn group registered a significant growth to 115 members and the network was able to recruit new members of the steering committee. "The ECHN is a space where junior hydrogeologists can interact and publish job, research, and cooperation opportunities" says Carlos Maldaner. "I'm looking forward to contributing to this energetic and enthusiastic group to improve our online community and to create special ECH events at the next IAH conference in Perth in September 2013." "I'm enthusiastic to interact with other early career hydrogeologists both nationally and internationally and build a real sense of community" says Lindsay McMillan.

Greatly encouraged by the amazing feedback in Niagara Falls, the committee are working on possible events for early career hydrogeologists at the Perth congress. The ECHN has established close links with the IAH Commission on Groundwater Outreach and are looking forward to future cooperation. Promoting the LinkedIn group is certainly a fundamental goal, as this is the place for networking during the long time between Congresses. IAH is very pleased with the increasing interest in the group's activities and encourage all junior hydrogeologists to join and to actively take part in job-related discussions, to post items of interest to early career hydrogeologists and to profit from the group's new initiatives.



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## IAH's Commissions and Networks

### Commission on Karst Hydrogeology

A special issue of Environmental Earth Sciences (EES) was published early in the year, presenting "Advances in Karst Hydrogeology", prepared by members of the IAH Karst Commission [springerlink.com/content/1866-6280/65/8](http://springerlink.com/content/1866-6280/65/8). This comprises papers presented at the "4th International Symposium on Karst" in Malaga, Spain in April 2010, which was also the annual meeting of the commission for that year.

In a new commitment to enhance the Association's efforts to meet its educational objectives and meet the aspirations of our Forward Look, the IAH Executive approved the provision of financial support to the Karst Commission to assist in the preparation of a global map of karst. Support was provided initially for a meeting of the scientific advisory board which took place in late 2012. The Karst Commission has established successful cooperation with the Speleogenesis Commission of the International Union of Speleogenesis. The two IAH Karst Commission sponsors, MWH and Enviroscan, are also sponsoring the Speleogenesis website.

### Commission on Thermal and Mineral Waters

The Commission on Mineral and Thermal Water held its annual meeting in Budapest in August 2012 on the general topic of: "Groundwater, Thermal and Mineral Water in Karstic Terrains and Porous Sedimentary Basins: Utilization of Thermal and Mineral Waters". The meeting was jointly organized by the Institute for Geological and Geochemical Research, the Research Centre for Astronomy and Earth Sciences, the Hungarian Academy of Sciences and the Hungarian National Chapter of IAH. A full day of technical presentations in Budapest on Monday 13 August was followed by a three day excursion to some of the most spectacular thermal spas in Hungary, a visit to a bottling plant in Budapest and the option at the end of visiting the famous thermal spas and baths of Budapest.

### Commission on Regional Groundwater Flow

The first meeting of IAH's new Commission on Regional Groundwater Flow was held in Niagara Falls. The objective of the commission is to foster research and practical application of regional groundwater flow theory by motivating new basic research, popularizing the concept through meetings and publications, and promoting its application to a range of groundwater situations. About 40 potential or already registered supporters attended and expressed interest in becoming involved in the commission's work. Joe Tóth, chair of the interim board, gave a brief overview of the commission's mandate, structure, tasks and needs and outlined a recruiting strategy for active supporters and sponsors, of whom there are 125 presently registered. The new commission plans to find sponsors from companies who recognize the role and importance of groundwater flow in earth and environmental processes. During the Niagara Congress, the commission organised a well attended Technical Session on

Regional Groundwater Flow at which 27 oral (5 invited) and several poster presentations were made. A kick-off party for the commission was held on the first evening of the Congress. The commission has a new website at [iah.org/regionalgwflow/activities.html](http://iah.org/regionalgwflow/activities.html) where details of upcoming activities can be seen.



*Regional Groundwater Flow Commission team*

Continued ...



### Commission on Climate Change

Over 30 members of the Commission on Groundwater and Climate Change (IAH-CGCC) met in Niagara Falls to discuss recent activities and future plans. In terms of recent activities, two items are of note. Firstly, the commission and UNESCO-IHP's GRAPHIC programme collaborated to prepare the book of papers on "Climate change effects on groundwater resources", published as ICH 27 in the Association's "blue book" series. Secondly, the commission led a critical review of the relationship between groundwater and climate change published in Nature Climate Change in late 2012. It is hoped that messages contained in this review might reach a wide audience, including the authors of the 5th Assessment Report of the IPCC. Activities of the commission included a special session at the AGU 2012 Fall and plans for a joint session with the Managed Aquifer Recharge Commission at ISMAR8 in China in 2013. The commission has launched a new website ([gwclim.org](http://gwclim.org)) in collaboration with the UNESCO-IHP GRAPHIC Programme.

### Network on Groundwater and Ecosystems

The kick-off meeting of the IAH Groundwater and Ecosystem Network was also held at Niagara Falls, was well attended and many good ideas for the future of the Network were discussed. The network's members will focus on four goals for the next year. The first goal was to recruit a second co-director and Alex Gargini from the Italian Chapter has accepted this role. Members are interested in producing an IAH publication explaining clearly what groundwater dependent ecosystems are, and to partner with the Italian National Chapter on a publication which outlines ways to forecast, evaluate and mitigate impacts on groundwater dependent ecosystems caused by human activities.

### Commission on Managed Aquifer Recharge

In 2012 the Commission for Managed Aquifer Recharge (MAR) organised and/or promoted a number of activities to advance the science and application of MAR. The commission continues to make progress on activities agreed to at ISMAR6 in Phoenix in 2007 and at ISMAR7 in Abu Dhabi in 2010, and were reinforced at a Commission Plenary Session at the Niagara Falls Congress in September 2012 and at the International Groundwater Conference in Aurangabad in December 2012. Commission members prepared one of the background thematic papers for the GEF/FAO Groundwater Governance Project, in which IAH is a partner. Cornelius Sandhu (University of Applied Sciences, Dresden) edited a special issue of the Journal of Indian Water Works Association on River Bank Filtration and Russell Martin (AGT, Adelaide) and a band of co-authors are bringing together a monograph on the management of clogging. Preparations for ISMAR8 Beijing, 15-19 Oct 2013 are well underway thanks to a strong local organising committee, including Chair, Prof Zhao, Prof Weiping Wang and Jordy Yin (secretariat). More than 70 oral papers have been accepted, some of which will be published in special editions of several journals, at least 4 workshops and an interesting field trip are offered to conference participants.

We hope these small glimpses of the work of our commissions and networks will encourage greater participation.

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## National Chapters

### report by John Chilton, Executive Manager

Efforts to promote new IAH chapters are always underway in countries where:

- there are significant numbers of groundwater professionals
- IAH ought to be stronger than it is at present and
- where groundwater is central to national development.

Thus, after first contacting the IAH Secretariat for advice, IAH member Jeffrey Lewis in Sweden was able to establish in 2011 that there was sufficient interest in setting up a chapter. A new IAH chapter for Sweden held its first meeting in March 2012. Thirteen hydrogeologists from all regions of the country and from both academia and industry attended the meeting. In reporting the start up of the chapter, Jeffrey says the meeting agreed their objectives should include acting as a voice for hydrogeology and groundwater issues nationally, promoting, networking and professional development of hydrogeologists working in Sweden, organizing at least one conference or meeting each year, promoting hydrogeology at university and technical high school level and promoting itself and the profession through various venues such as “job fairs” at universities. The new chapter looks forward to working with the broader IAH community and for our part we look forward to continuing to support their development.

Meanwhile, from February 2012 the Italian National Chapter has a new and very active committee led by chair Marco Petitta. They advised us that their first task would be to focus on increasing the number of Italian members of IAH and they have done so in spectacular fashion, rising from 73 in 2011 to over 150 at the end of 2012. A national conference, “Flowpath 2012”, was held in Bologna in June 2012. Marco reports that more than 180 people, including contributors from Spain and Germany, attended the conference, enjoying the scientific programme, the social events and the final field trip. International speakers greatly enriched the meeting, with lectures by John Cherry and Beth Parker from the University of Guelph in Canada, Ramon Aravena, University of Waterloo, Canada and Nico Goldscheider from the Karlsruhe Institute of Technology, Germany. The next Flowpath conference will be in 2014 in Viterbo. Chapter representatives

were active at the Niagara Falls congress, fulfilling another of their aims – to increase Italian participation in IAH Commissions and Networks. Marco and his colleagues, shown in the accompanying photo, are to be congratulated for their efforts in rejuvenating the Italian Chapter of IAH.



*The Italian Chapter Committee*

During the year, new committees have also been elected for the Spanish and British National Chapters, and an interim ad-hoc committee has been established to take care of IAH activities in India and to prepare the way for new elections to be held. India is clearly a country which meets the three criteria outlined above, and new IAH President Ken Howard visited India in December to attend the IGWC conference in Aurangabad to discuss with the new committee how we can build up IAH membership there and strengthen our support for the activities of the Indian chapter.

Part of the motivation for holding the IAH congress in Canada was to celebrate the 40th birthday of one of our oldest and largest national chapters. The occasion was marked with a birthday party immediately following the formal closing ceremony at which congress participants were invited to drink to the continuing health and wellbeing of the chapter, and share in the large birthday cake.

Reports of chapter activities appear in the IAH Newsletter and on the website at [iah.org/groups/national-chapters](http://iah.org/groups/national-chapters) and more such reports are always welcome. The Executive and Secretariat continues to support existing national chapters and to promote new ones. If you think there are members of IAH in your country who would be interested in setting up a national chapter, please get in touch.

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