



International Association of Hydrogeologists
**THE WORLDWIDE
GROUNDWATER
ORGANISATION**

IAH at 60: Past achievements, present activities and future challenges

*John Chilton, IAH Executive Manager and
IAH Past President Willi Struckmeier*

with a cast of thousands.....

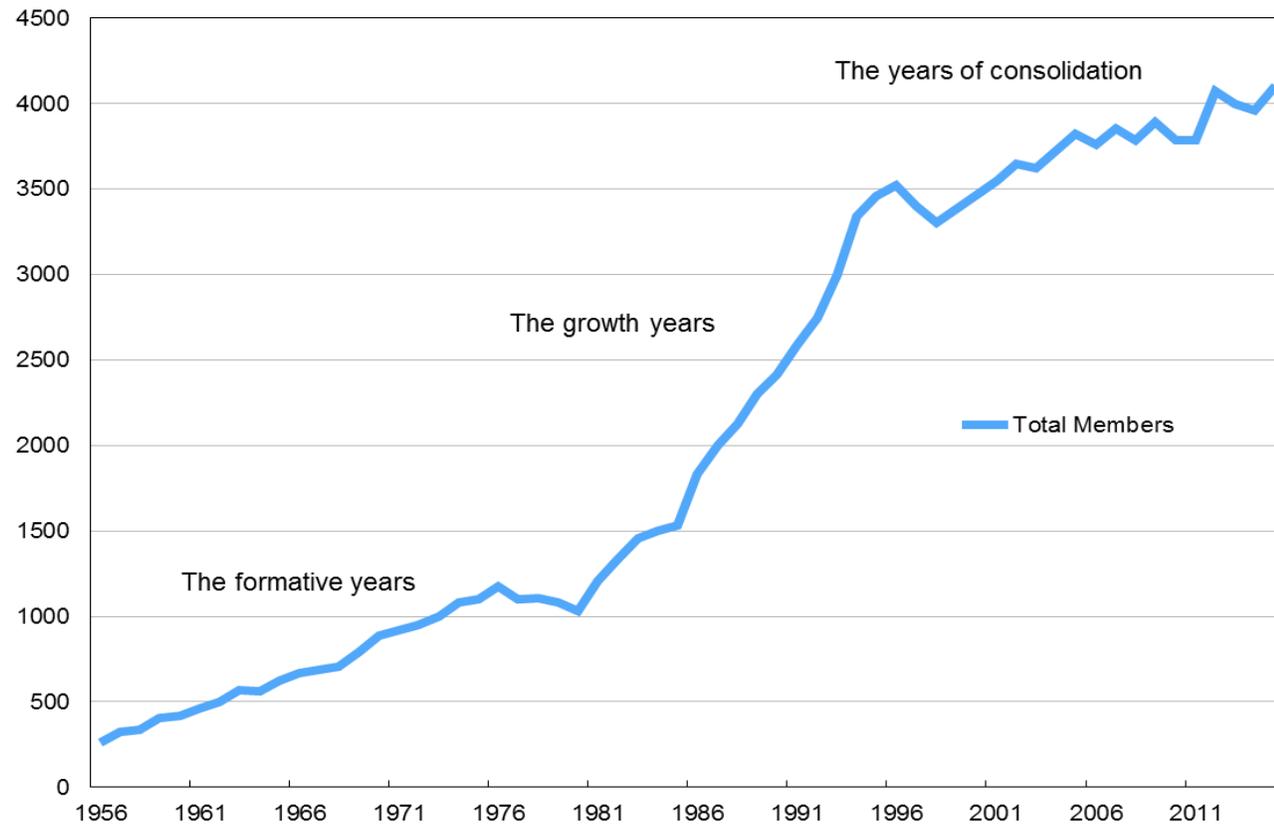
and the help of many



HISTORY...

It's logical to think in terms of three periods of IAH's development and growth, each being around 20 years:

Growth in IAH membership

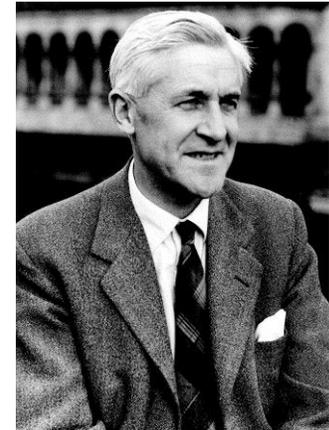
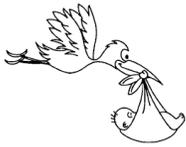


Struckmeier, Howard and Chilton, *Hydrogeology Journal* 24 (5) 2016



1. THE FORMATIVE YEARS: 1956-1979

- Seeds sown at 1948 IGC in London
- Organising committee convened at 1952 IGC in Algiers
- Formally established at 1956 IGC in Mexico City First IAH Council
The actual date of birth was 8 September 1956!
- First congress at the Sorbonne, Paris, 1957 with 62 participants



Stevenson Buchan,
courtesy BGS

Original aims in the 1957 statutes:

“uniting all scientists interested in hydrogeology: holding scientific meetings and publication of worthwhile scientific results”

Revised in 1975 statutes:

“to promote cooperation between geologists and specialists in all disciplines who are interested in hydrogeological problems”



John Day, courtesy
Beate Schwerdtfeger

John Day, *Applied Hydrology*, 0: 1992



THE EARLY YEARS...



Courtesy: Laurence Chery

Lively hydrogeological debate?

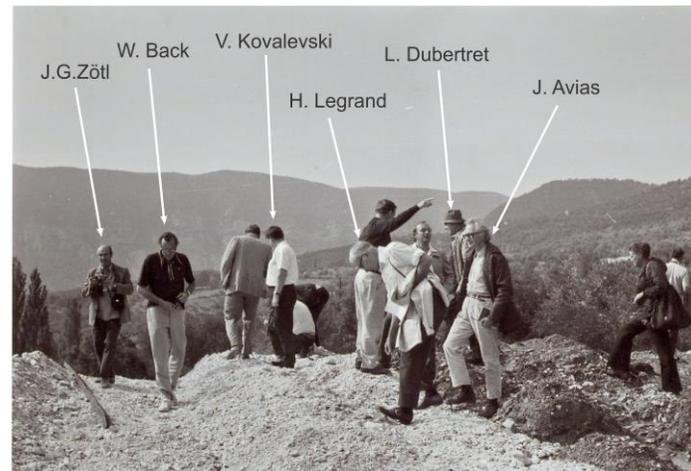
“Further, it was accepted that recharge might occur every five years”

Mauritania 1965, including
Gilbert Castany and Jean Margat

Activities in the early years

Creation of commissions:

First was Hydrogeological Maps in 1959, and in 1968
Karst Hydrogeology and Mineral and Thermal Waters

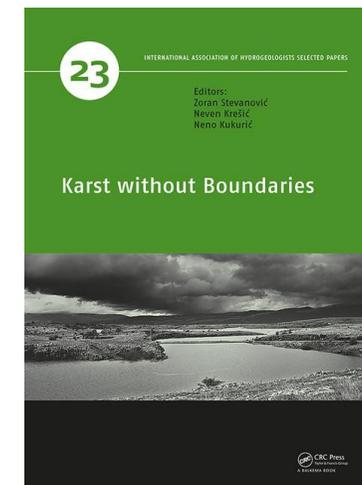


Courtesy Petar Milanovic



Courtesy Werner Balderer

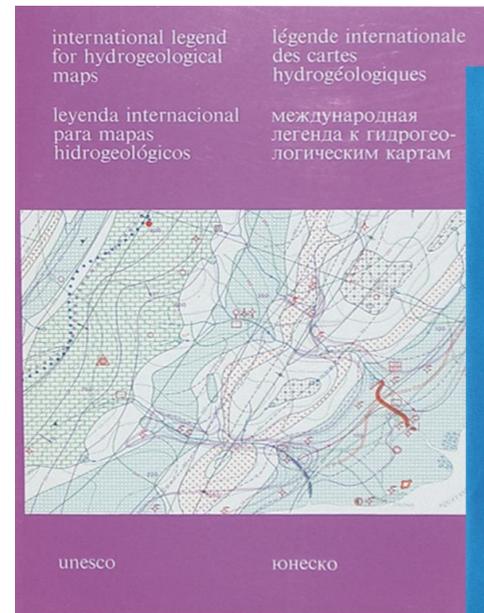
All of these have since had long and productive lives through their own meetings and field trips, contributions to congresses and to IAH publications



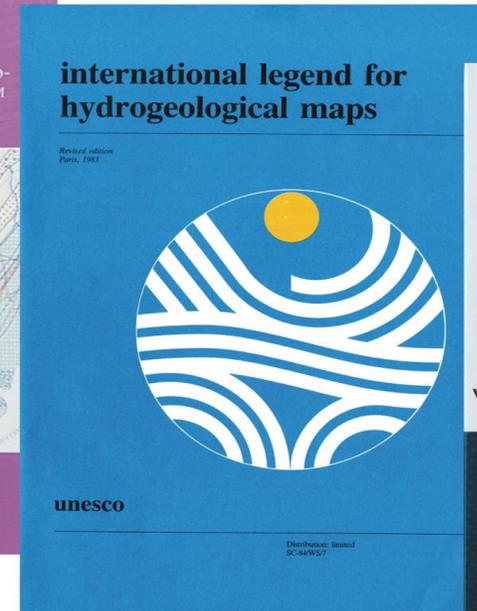
Activities in the early years

- Commission on Hydrogeological Maps
- Firm and lasting collaboration with UNESCO IHP, IAHS and CGMW
- International Legend developed in the 1960s

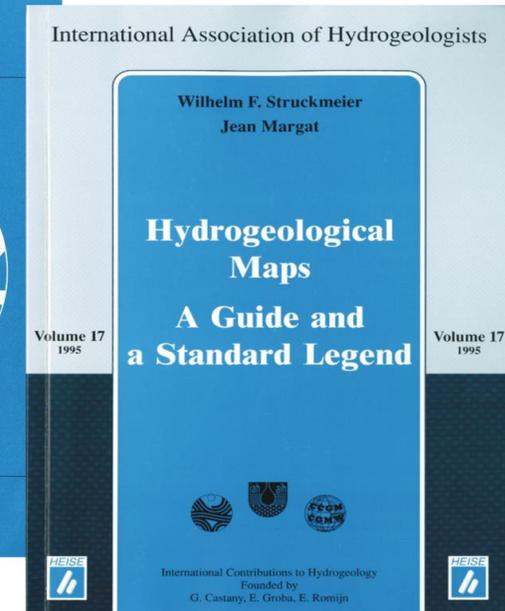
Towards common standards



(1970)

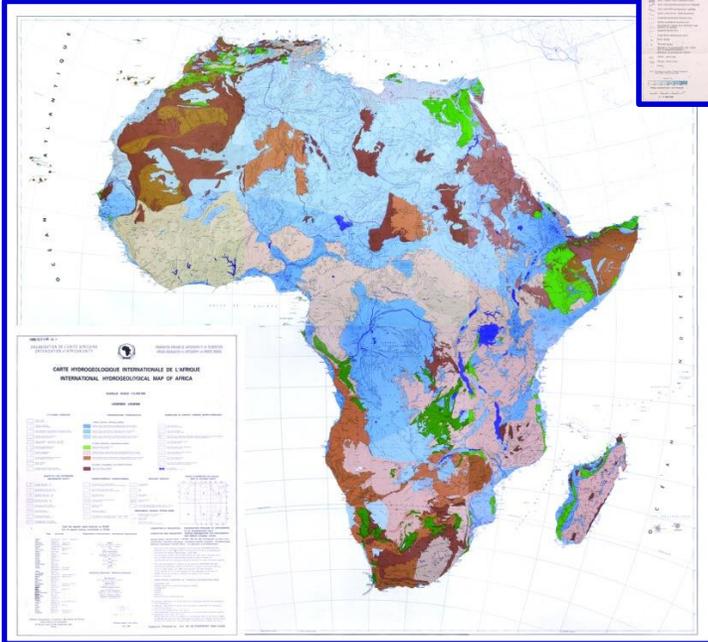
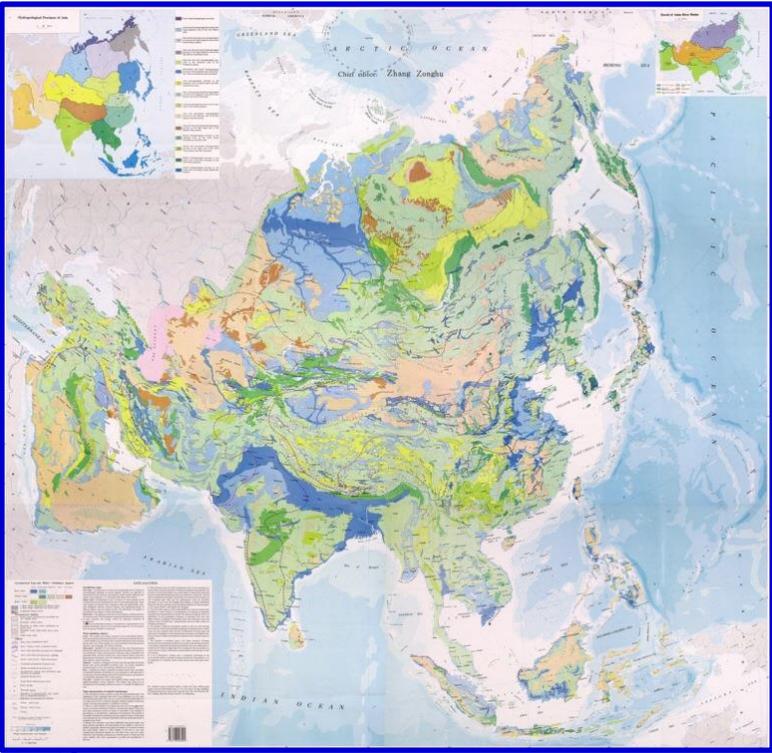
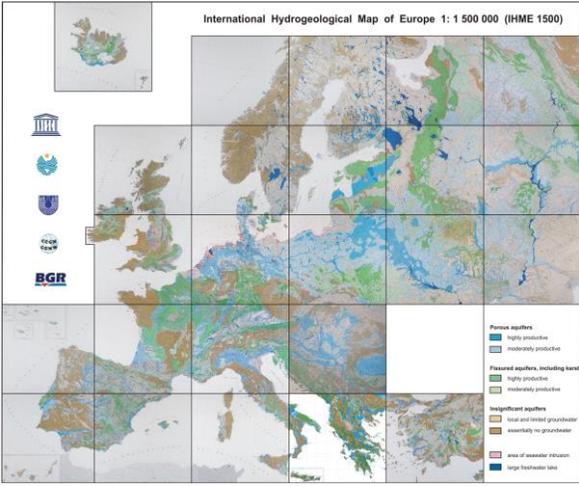


(1983)



(1995)

Hydrogeological maps by continent by 1998



Activities in the early years

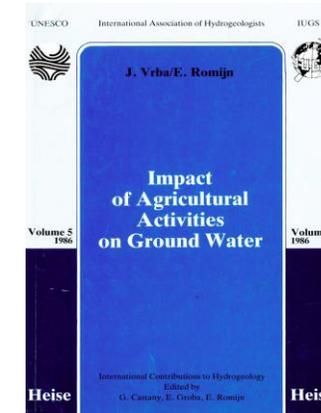
First national chapters formed:

- Belgium in 1958
- chapters in France, Spain, Italy, Czechoslovakia and Germany followed in the 1960s

Publications: proceedings of congresses

Expansion presented challenges:

- chapters in the US, Ireland and Canada



Towards the end of his term as president (1972-77) Stevenson Buchan remarked:

“running the association is now becoming quite a heavy task”

Sadly, IAH’s founding Secretary Louis Dubertret died on a field trip in Lithuania following the 1979 congress; this marked the end of the early years period



2. THE INTERNATIONAL GROWTH YEARS: 1979-2000

A rapid growth in membership:

- 1030 members from 53 countries in 1980 and 3500 from 118 by 1996
- broadening geographical spread with many new national chapters

Shield logo proposed by Jaroslav Vrba
for the 1986 congress



Encapsulates the very essence of hydrogeology.....



The International growth years

Establishing the books and journal



Courtesy of Andrew Skinner

Agreement for journal reached in 1991 at the Sherlock Holmes Hotel in London



Awards – not only measuring in numbers



Both courtesy of Andrew Skinner



International Growth Years: Journal

- *Applied Hydrogeology* launched in 1992, four times per year under editorship of Gene Simpson
- Changed to *Hydrogeology Journal* in 1995 when Cliff Voss and Bill Wilson took over
- Rapid growth to 8 issues and nearly 2000 pages per year, larger editorial team and steadily improving impact factor



Courtesy of Andrew Skinner



Courtesy of Andrew Skinner



Year	IF
2015	2.028
2014	1.966
2013	1.712
2012	1.675
2011	1.387
2010	1.326
2009	1.417
2008	1.100



Changing science of hydrogeology

New IAH commissions reflect the evolution of hydrogeology

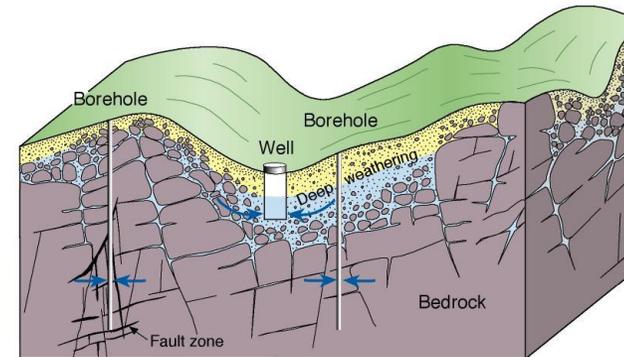
Early emphasis on investigating availability and suitability of groundwater for domestic, agricultural and industrial use

Mapping and three-dimensional understanding of complex geological environments: commissions on volcanic rocks, hard rocks and coastal areas to complement karst

Emphasis changing towards managing and protecting groundwater



Courtesy Ian Acworth



Courtesy Stephen Foster

Georg Teutsch in his 2016 Ineson Lecture at the recent IAH GB chapter anniversary meeting had a broadly similar perspective.....

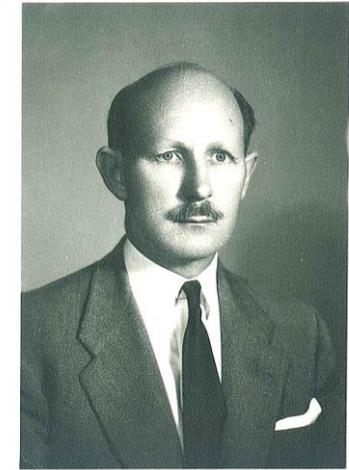


International Growth Years: Burdon

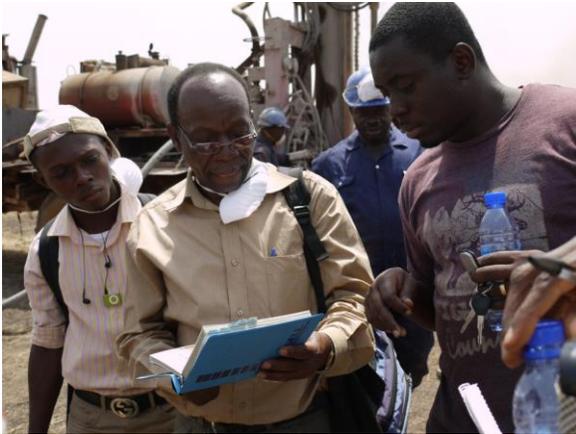
The Burdon Fund established in the mid 1980s

“to support IAHA members in lower income countries”

- associated Burdon Commission set up
- sponsored members scheme launched

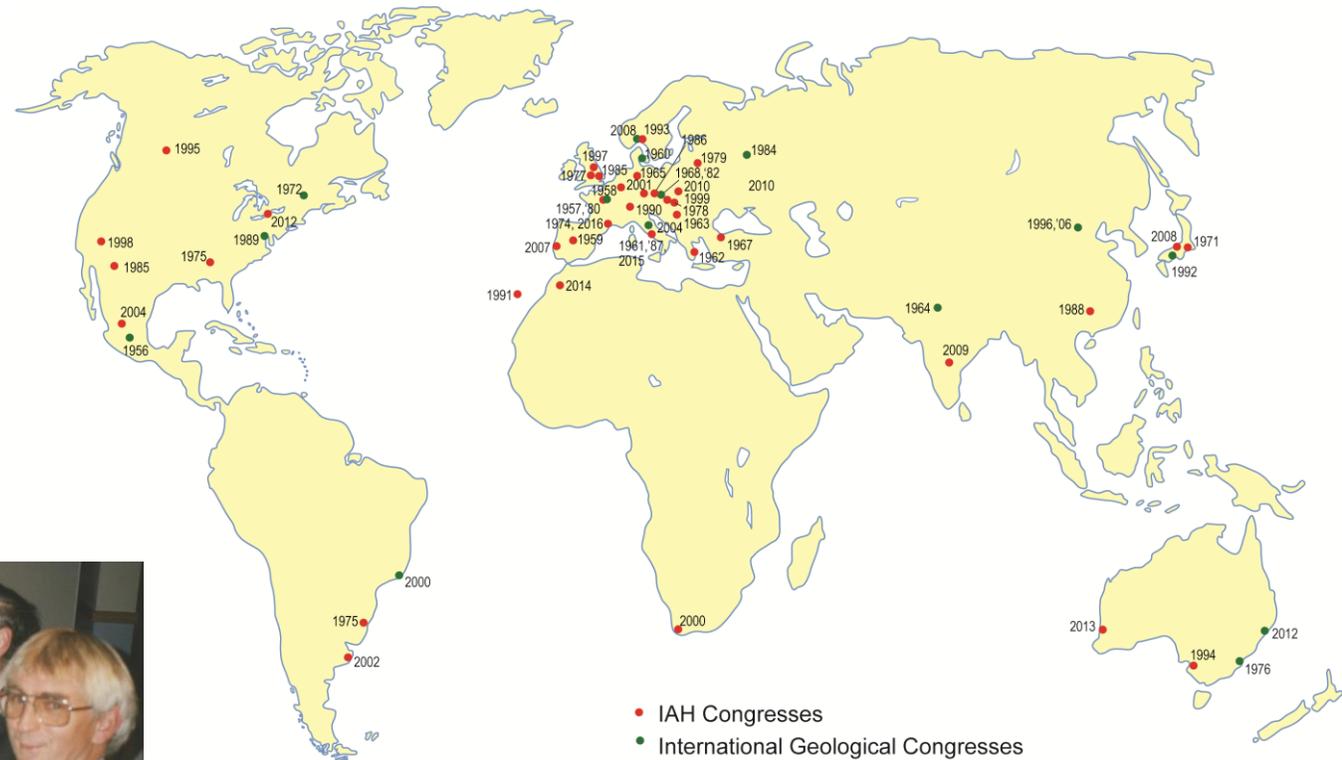


Courtesy Irish NC



The growth years: congresses

Broadening spread, growing in size



Courtesy Beate Schwerdtfeger

Courtesy Andrew Skinner



More lively hydrogeological discussion?



The growth years: congresses

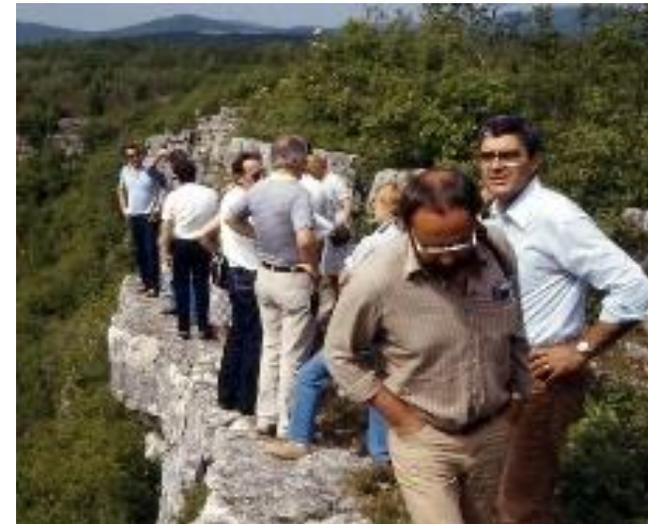
Hydrogeologists get to see some nice places.....



Courtesy Beate Schwerdtfeger



Courtesy Canadian NC



Courtesy Beate Schwerdtfeger



Governing and managing the Association

- administered originally in France, then the Netherlands and then the United Kingdom
- strategic reviews: 1992 in Prague, 2002 in Romania and 2010 the Forward Look in the UK



Courtesy Andrew Skinner



Aims re-stated in 1992 as:

“developing technical and public understanding of hydrogeology and groundwater issues”

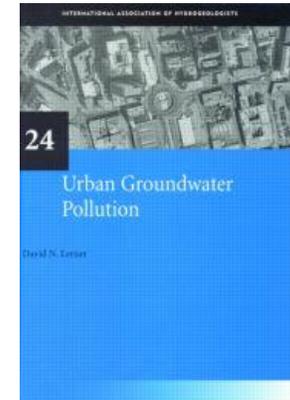
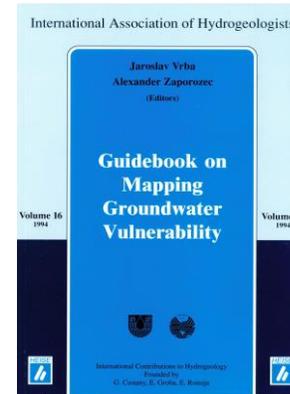
- incorporation in the UK in 2000, following extensive preparation by IAH President Michael Knight and Secretary General Andrew Skinner



3. Consolidation and adaptation to change: 2000-2016

- Continuing evolution of hydrogeological science and groundwater management reflected in new IAH commissions and networks:

Some of our strongest commissions have at times led as well as reflected scientific advances



- Getting the groundwater message out

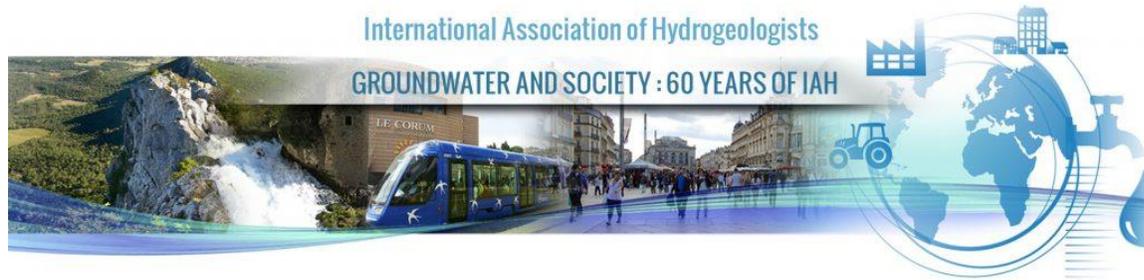


Courtesy Andrew Skinner



Adapting to change

- Encouraged membership outside of classical academic hydrogeology
- Congress themes also reflect increasing importance of economic and social context of hydrogeology.....



- Developed new partnerships to help achieve the millennium IAH mission:
“to promote the understanding of groundwater and its proper management and protection for the benefit of humankind and the environment”



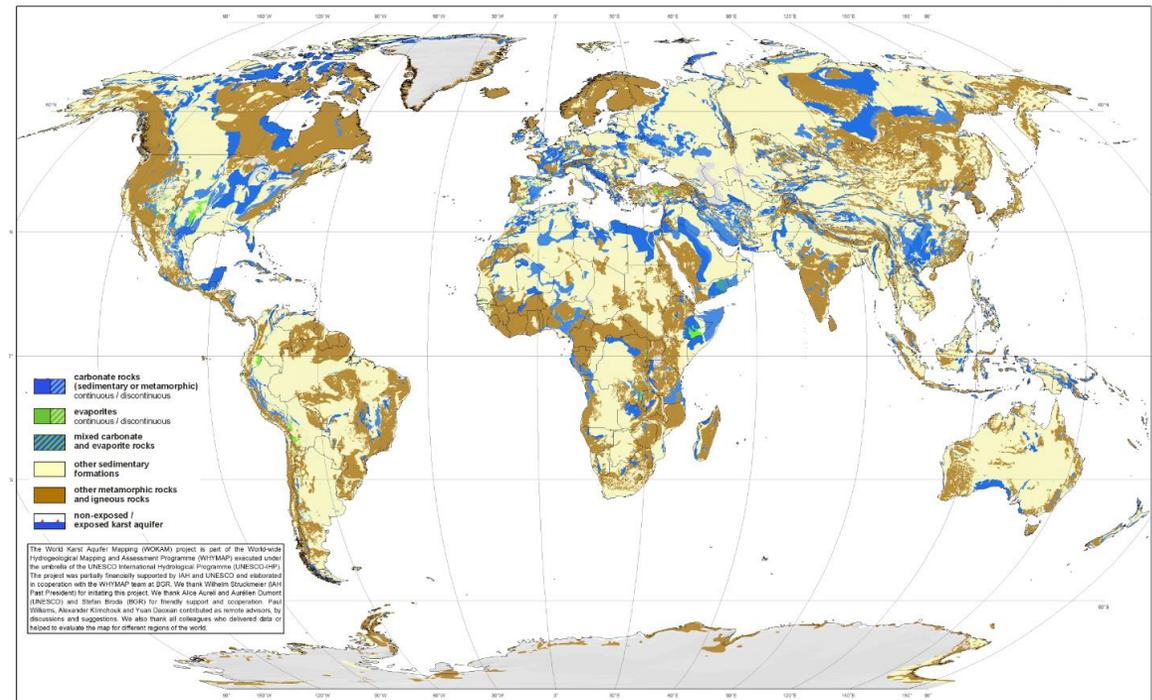
Present activities

- Early Career Hydrogeologists Network
- Establishing new chapters
- Time Capsule
- Mentoring
- Supporting commissions
- Education: strategic overview series



World Karst Aquifer Map (draft)

Zhao Chen, Augusto Auler, Michel Bakalowicz, David Drew, Franziska Griger, Jens Hartmann, Guanghui Jiang, Nils Moosdorf, Andrea Richts, Zoran Stevanovic, George Veni & Nico Goldscheider
Corresponding author: zhao.chen@kit.edu / project leader: nico.goldscheider@kit.edu



Challenges

For hydrogeology:

- scale - impact of regulatory legislation



Again with a little help from Georg Teutsch:

- hyper-resolution

The ultimate goal – long-term prediction and management of solute fluxes at catchment and basin scale

Challenges

For the Association:

- spreading the word for groundwater – inform and influence
- providing attractive member benefits for a new generation of hydrogeologists
- book publication – finding authors and tempting buyers
- journal – open choice and on-line access
- diversifying our income
- communications and the appropriate use of social media

to achieve our current mission:

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



Challenges

But causes for optimism...



Courtesy Judit Mádl-Szönyi



ECHN...

More lively hydrogeological debate?

Encouraging young scientists.....

Establishing new chapters.....
New Zealand, Tunisia, Turkey and Iraq



Happy birthday, IAH!!

...and thank you!

