

International Association of Hydrogeologists

COMMISSION ON GROUNDWATER & CLIMATE CHANGE

ANNUAL REPORT 2008

Chairs

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<http://www.iah.org/gwclimate/>

1. Aims

The IAH Commission on Groundwater and Climate Change (IAH-CGCC) is dedicated to improving our limited understanding of the relationship between climate change and groundwater resources. To achieve this goal, the IAH-CGCC has the following key objectives: (1) to promote international and inter-disciplinary research among hydrogeologists, climate scientists as well as physical, social, and health scientists regarding the relationship between groundwater and climate change; (2) to facilitate the dissemination of knowledge and exchanges of experiences related to groundwater and climate change through the organisation of conferences, lectures and meetings as well as the preparation of books, journal articles and popular articles; and (3) to coordinate research activities and knowledge dissemination pertaining to groundwater and climate change with allied global initiatives.

2. 2008 Activities:

Groundwater & Climate in Africa conference (<http://www.gwclim.org/>)

The Groundwater & Climate in Africa conference was held in Kampala (Uganda) from 24 to 28 June 2008 and is the first-ever meeting to discuss the role of groundwater in improving livelihoods in Africa under conditions of rapid development and climate change. Organized by the Ministry of Water & Environment (Uganda), University College London (UK) and the International Hydrological Programme of UNESCO, the Groundwater & Climate in Africa conference brought together more than 300 water scientists, managers and policy makers including parliamentarians from 23 countries in Africa and 14 countries from the rest of the world. The conference featured 96 presentations (available online) that contributed to 6 strategic themes including the impacts of climate variability and change on groundwater-based livelihoods and groundwater-fed ecosystems, monitoring and modelling of groundwater replenishment and use, estimation of groundwater resources and demand as well as groundwater management in arid, semi-arid and humid environments under a changing climate. Conference Key outputs include (1) “The Kampala Statement”, (2) special issue of *Hydrological Sciences Journal* to be published in August 2009 and an International Association of Hydrological Sciences (IAHS) Red Book volume to be published in late 2009.

Climate Change and Groundwater monograph

A book, edited by Walter Dragoni and Balbir Sukhija, was published as a special publication of the Geological Society of London (vol. 288) and features 13 studies from different countries and climatic regions.

3. Progress on Commission objectives

re: objective 1 - to promote international and inter-disciplinary research among hydrogeologists, climate scientists as well as physical, social, and health scientists regarding the relationship between groundwater and climate change

- The International Research Center on Karst (IRCK, <http://www.irck.edu.cn>) was founded in China in 2008. Under the auspices of UNESCO-IHP, research activities at the IRCK include analyses of the impacts of climate change on groundwater in karst environments. Support in the form of “seed” funding for international, inter-disciplinary research into the relationships among karst groundwater and climate change and human activities is available. The above initiative is indicative of ongoing efforts to link more strongly the work of the IAH-CGCC to the UNESCO-IHP GRAPHIC (Groundwater Resources Assessment under the Pressures of Humanity and Climate Change) programme (<http://www.unesco.org/water/ihp/graphic/>).

re: objective 2 - to facilitate the dissemination of knowledge and exchanges of experiences related to groundwater and climate change through the organisation of conferences, lectures and meetings as well as the preparation of books, journal articles and popular articles

- Another major advancement towards the goals of the IAH-CGCC in 2008 was the organisation of the *Groundwater & Climate in Africa* conference held in Kampala from 24 to 28 June. As stated above, the conference brought together more than 300 water scientists, managers and policy makers including parliamentarians from 23 countries in Africa and 14 countries from the rest of the world. In addition to 96 presentations and a series of roundtable discussions, the conference included meetings of the IAH Burdon Network, UNESCO-GRAPHIC programme, and dissemination of the Map of African Transboundary Aquifers (IAH WHYMAP). The conference also raised awareness of the newly formed, African Ground Water Commission (AGWC). Key outputs from the conference include the “Kampala Statement” outlining key policy recommendations emanating from scientific discussions, conference presentations (available online: <http://www.gwclim.org/>), and conference papers in both a special issue of Hydrological Sciences Journal (publication date: August 2009) and IAHS Red Book Volume (late 2009).
- Another IAHS Red Book volume is planned in 2009 detailing outputs from the IAH Congress in Toyama, “*Groundwater system response to a changing climate*”

re: objective 3 - to coordinate research activities and knowledge dissemination pertaining to groundwater and climate change with allied global initiatives

- A side event, *Groundwater and Climate*, at the **World Climate Conference 3** to be held in Geneva in September 2009 has been proposed with UNESCO-GRAPHIC and is currently under review.

4. Future Plans and Meetings

May 2009 **Groundwater Recharge Assessment**
Norwich, UK
Meeting organised by Geological Society (UK) and UNESCO-GRAPHIC

- Sept. 2009 **37th IAH Congress / 8th IAHS Scientific Assembly**
Hyderabad, India
Special Session JS2: *Trends and sustainability of groundwater in highly stressed aquifers*
- Oct. 2009 **NGWA Theis Conference: *Ground Water and Climate Change***
Boulder, Colorado (USA)
- 2010 38th IAH Congress
Krakow, Poland