



# IAH COMMISSIONS AND NETWORKS

## REVIEW FORM

**Background:**

Reform of the IAH Commissions and Networks was completed in 2011, with the renewal of some of the previous ones and the creation of new ones. When setting up the new commissions and networks, it was agreed that a review would be undertaken in the middle of each period of license, with the intention of informing the IAH Executive and Council regarding the progress with the work of the commissions and networks. This progress would be compared with the initial work plans and commitments set out in their original proposals.

Your commission or network is now at the end of its license period. All commissions and networks with a license period of four years are invited to report on their activities by answering the questions below. This form must be filled with all the information of the 4 years period license, so please include the information inserted in the form of the mid-term evaluation period. Note: In this document “C & N” will represent “Commissions and/or Networks”

**Review Questions:**

1	Name of your C & N and respective acronym	IAH Commission on Groundwater & Climate Change (IAH-CGCC)
1.1	Name and email contact(s) of the responsible(s) person for this C & N	<p>Professor Richard Taylor, University College London (UK) email: <a href="mailto:richard.taylor@ucl.ac.uk">richard.taylor@ucl.ac.uk</a></p> <p>Professor Bridget Scanlon, University of Texas (USA) email: <a href="mailto:bridget.scanlon@beg.utexas.edu">bridget.scanlon@beg.utexas.edu</a></p> <p>Professor Jianyao Chen, Sun-Yat Sen University (China) email: <a href="mailto:chenjyao@mail.sysu.edu.cn">chenjyao@mail.sysu.edu.cn</a></p>
2	Do you wish to continue your activity for a further period (Yes/No)? If the answer is “No”, please explain here the reason and go to point 3	Yes.

2.1	If you wish to change the name of your C & N, please write the new proposed name and acronym	
2.2	Preferred term of the new license (4 or 6 years)	4 years
2.3	If you want to change the mission of your C & N, please insert the new mission here	

3	Please provide the address of your website	<a href="http://www.gwclim.org">www.gwclim.org</a>
3.1	Is the website regularly maintained and updated?	No. See comments below in section 4.5.
3.2	If you still don't have a website, please explain the reason	

4	List the activities which you committed to organize in your original proposal. See Annex A.	<p>Group Meetings          Conference Sessions          Stand-alone Meetings          Training Workshops          Knowledge Exchange          Knowledge Dissemination          Research          Liaison with other groups          Advice to UN Agencies</p>
4.1	List the activities you have organized in the context of the list above	<p><b>Group Meetings (5):</b>  <i>Fall Assembly of the American Geophysical Union</i>          7 December 2011          San Francisco (USA)</p> <p><i>IAH 39<sup>th</sup> Congress</i>          16 September 2012          Niagara Falls (Canada)</p> <p><i>World Water Assessment Programme (with UNESCO-IHP GRAPHIC)</i>          16-17 May 2013          Perugia (Italy)</p>

		<p><i>IAH 41<sup>st</sup> Congress</i> 15 September 2014 Marrakesh (Morocco)</p> <p><i>IAH 42<sup>nd</sup> Congress</i> 13 September 2015 Rome (Italy)</p> <p><b>Conference Sessions (4):</b> AGU Fall Meeting (San Francisco, USA) <i>Groundwater and Climate Change: Evidence from Remote Sensing and In Situ Monitoring (H14b)</i> 2011, 5-9 December</p> <p>AGU Fall Meeting (San Francisco, USA) <i>Groundwater and climate change: linkages and adaptation</i> 2012, 3-7 December</p> <p>IAH 39th Congress (Niagara Falls, Canada) <i>Groundwater and climate change: linkages and adaptation</i> 2012, 16-23 September</p> <p>IAH 41<sup>st</sup> Congress (Marrakesh, Morocco) <i>Surface Water and Groundwater Interaction: Interaction and Recharge</i> 2014, 14-15 September</p> <p><b>Stand-alone Meetings (0):</b> No stand-alone meetings have yet been organized but regional meetings have been organized: see knowledge exchange section below.</p> <p><b>Training Workshops (6):</b> <i>Climate Change and Its Impacts: Water in a Changing Climate</i> 2011, 15-17 June BIARI, Brown University (Providence, USA) - Workshop involved 35 early career scientists from Africa and Asia.</p> <p><i>Methods for Assessing Impacts of Climate Change and Human Activities on Groundwater Resources</i> 2011, 31 October – 4 November Sun-Yat Sen University (Guangzhou, China) - Workshop with UNESCO-IHP GRAPHIC involved 30 early</p>
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career scientists from China, Mongolia, Thailand, Philippines, and Indonesia.

*Paleoclimatic signals from large aquifers in Africa*

2013, 14-18 Oct

Maputo (Mozambique)

– Workshop run by G@GPS (led by Sylvi Haldorsen and IAH-CGCC Co-Chair Jianyao Chen) involving scientists from southern Africa and around the world.

*On the use of groundwater-level monitoring in water management*

2014, 31 March

Entebbe (Uganda)

- Workshop at Ministry of Water & Environment under UK-funded UPGro Groundwater Atlas project (led by IAH-CGCC Co-Chair Richard Taylor) involving government staff operating groundwater monitoring stations

*Observing groundwater storage changes in Benin & Burkina Faso*

2015, 9-11 February

Cotonou (Benin)

- Workshop at the University of Abomey-Calavi under UK-funded UPGro Groundwater Atlas project (led by IAH-CGCC Co-Chair Richard Taylor) involving scientists from Benin and Burkina Faso

4<sup>th</sup> Annual meeting of G@GPS-Palaeogroundwater from past and present glacial areas

2015, 5-9 July

Tallinn (Estonia)

-Workshop and training course (led by Rein Vaikmae, Dioni Cendon and IAH-CGCC Co-Chair Jianyao Chen) involved 30 research scientists around the world.

**Knowledge Exchange:**

The IAH-CGCC seeks to develop and maintain on its website: (1) a searchable database of relevant literature listings; (2) notices of meetings and fora; and (3) a moderated BLOG wherein commentary and queries regarding the relationship between groundwater and climate change, and the role of groundwater in adaptation to climate variability and change are discussed and debated. It has succeeded only in achieving item 2.

The IAH-CGCC has played a central role in establishing a new regional consortium, *The Chronicles Consortium* (<http://www.un-igrac.org/publications/544>), at the IAH 2014 Congress in Marrakesh. This international consortium of scientists from across Africa and beyond collates and analyses multi-decadal records of groundwater levels, representing long-term aquifer dynamics, to assess the impacts of groundwater use, climate variability and change, and land-use change on groundwater storage across Africa. The IAH-CGCC has been pivotal in finding support for African scientists to participate in the IAH-CGCC sessions at the IAH Congresses in Marrakesh and Rome as well as dedicated workshops of *The Chronicles Consortium* at these congresses.

**Knowledge Dissemination:**

The IAH-CGCC constructed its own stand-alone website at [www.gwclim.org](http://www.gwclim.org) which currently features details of the IAH-CGCC aims, focal areas, notices of meetings and a moderated blog. Two planned additions: (1) a searchable database of relevant literature listings; and (2) a metadata database, linked to the WMO-sanctioned global repository of groundwater data, IGRAC ([www.igrac.org](http://www.igrac.org)), have not yet materialised (see below).

**Research:**

The IAH-CGCC had proposed to support the initiative of its members to develop research proposals that seek to improve understanding of (1) the relationship between groundwater and climate change, and (2) the role of groundwater in adaptation to climate variability and change. To date, we have not engaged in such activity though many its members are actively engaged in preparing research proposals.

**Liaison with other groups:**

The IAH-CGCC interacts regularly with the allied aims of the UNESCO-IHP GRAPHIC programme. Joint discussions have been held with the Managed Aquifer Recharge Commission (Marrakesh, Morocco). Recently, the Regional Groundwater Flow Commission proposed a cooperation agreement with the IAH-CGCC to be discussed at the IAH Congress in Rome (2015). Through IAH-CGC initiated *Chronicles Consortium* (see above), the IAH-CGCC is also working with the French government, Institut Recherche pour le Développement (IRD) through its PICASS'EAU project. IAH-CGCC Co-chair Jianyao Chen serves also as INQUA IFG Palaeogroundwater

		<p>leader, which enables the close communication between two groups.</p> <p><b>Advice to UN Agencies (2):</b> Direct advice to the future of the UNESCO-IHP GRAPHIC was provided at the World Water Assessment Programme in Perugia (Italy) on 16-17 May 2013.</p> <p>IAH-CGCC Co-Chair Richard Taylor gave an invited presentation to a special session, <i>Climate Change &amp; Freshwater</i>, at the COP21 Science Meeting, <i>Our Common Future Under Climate Change</i>, in Paris on 7<sup>th</sup> July 2015.</p>
4.2	Please indicate other activities organized that were not planned initially	
4.3	Please provide any reports you may have made on these activities or indicate where we can find them (a website, for example)	Some reports are available from <a href="http://www.gwclim.org">www.gwclim.org</a> ; summaries of recent (1014-2015) training workshops are available from upro.org.
4.4	Please indicate any activities you have organized jointly with other groups	The IAH-CGCC works jointly with UNESCO-IHP GRAPHIC programme on many its activities (see above).
4.5	Please provide any comments on difficulties found in the organization of your activities	<p>The biggest stumbling blocks to realising the stated aims of the IAH-CGCC have been in relation to <b>Knowledge Exchange</b> and <b>Knowledge Dissemination</b>. Both of these also, in part, influence progress on other stated activities.</p> <p>We proposed to achieve regular engagement with our members and the wider public through our new website: <a href="http://www.gwclim.org">www.gwclim.org</a>. However, the Co-Chairs have simply not had the time to dedicate to achieving these tasks which, we have found, requires a dedicated resource person.</p> <p>It would be greatly appreciated if the IAH could support a communications post to facilitate the on-going maintenance of IAH Commission (&amp; Network) webpages. Such a person could provide this service to other Commission and Networks (e.g. 1 to 2 days per month for each). Such support, for the IAH-CGCC at least, would make a very substantial difference to the web presence and engagement through the web offered by the IAH-CGCC and possibly other Commissions and Networks.</p>

4.6	If you intend to continue your activities for a further period, please insert here the activities you intend to organize during the next license period	Future activities will be discussed at the IAH-CGCC meeting at the IAH Rome Congress.
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5	Deliverables	
5.1	Have you sent all annual reports for your C & N for 2011 to 2014?	Yes.
5.2	Have you prepared any of the planned monographs or maps?	<p>The IAH-CGCC initiated, led and coordinated a state-of-the-art, critical review of the relationship between groundwater and climate change, published in <i>Nature Climate Change</i>, by an international team of leading groundwater scientists:</p> <p>Taylor, R.G., Scanlon, B.R., Doell, P., Rodell, M., van Beek, L., Wada, Y., Longuevergne, L., LeBlanc, M., Famiglietti, J.S., Edmunds, M., Konikow, L., Green, T., Chen, J., Taniguchi, M., Bierkens, M.F.P., MacDonald, A., Fan Y., Maxwell, R., Yechieli, Y., Gurdak, J., Allen, D., Shamsudduha, M., Hiscock, K., Yeh, P., Holman, I. and Treidel, H., 2013. Groundwater and climate change. <i>Nature Climate Change</i>, Vol. 3, 322-329.</p>
5.3	Have your members made contributions to IAH Blue or Green Book Series?	<p>Working with the UNESCO-IHP GRAPHIC programme, the IAH-CGCC contributed to the production of an edited volume of 22 papers from around the globe on the impact of climate change on groundwater and the role of groundwater in climate change adaptation, Climate change effects on groundwater resources: a global-scale synthesis of findings and recommendations, edited by Holger Treidel, Jose Luis-Bordes and Jason Gurdak, and published in 2012 by CRC Press in the International Contributions to Hydrogeology Series (Volume 27).</p>
5.4	Where have you published your maps and monographs (if not in the IAH Book Series)?	
5.5	Other publications (meeting compilations, brochures, etc.)	

6	C & N internal meetings	
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6.1	How many meetings of members has the C & N organized?	
6.2	Dates and locations of these meetings and number of participants at each one	

7	Organization and functioning of the C & N	
7.1	Please provide information about the internal organization of your C & N (how were the members appointed to the chairs, for example by invitation, by co-optation, offering themselves, by election?)	Co-Chairs of the IAH-CGCC were invited.
7.2	As the rules for C & N establish, coordinators of commissions must be elected but coordinators of networks can be appointed by consensus or election, the second being preferable. After the first period of license, in which many of the coordinators were appointed by consensus, please indicate here what actions you are planning for the next period of license in relation to this issue and the approximate dates for eventual elections (obligatory for Commissions)	The IAH-CGCC is simply serves to foster interest and organize events that help to reach its stated aims. This is entirely voluntary and depends upon the available time and abilities of members who contribute. The questions posed here suggest a commitment of time and interest that, as Co-Chairs, we have not experienced.
7.3	Please indicate here if you have any criteria for selection of members of your C & N, if you accept all the members who apply, or if you have different categories of members (for example full members and observers)	Anyone who demonstrates interest and is able to participate in an IAH-CGCC event in person or remotely becomes a member of the IAH-CGCC. It is a very broad and open 'church'.
7.4	Please provide any other comments you have on the organization of the C & N	

8	Membership of the C & N	
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8.1	Actual number of members (if you have different categories of members, please inform here how many do you have in each category)	No categories.
8.2	If you have different categories of members, please explain how these categories are established and managed	
8.3	Is your C & N completely inclusive (any person can be a member)?	Yes.
8.4	If you are not inclusive, please explain the reasons	
8.5	Explain your policy for early career hydrogeologists (remember that one of our main goals is to encourage young hydrogeologists to participate more in our activities)	We welcome the participation of early career hydrogeologists. Potential funding support is given preferentially to early career hydrogeologists (less than 8 years after getting PhD degree) , as carried out by INQUA IFG project.

9	Other information	
9.1	Please indicate if you have received any funding support from within IAH and/or from other external groups or partners	No.
9.2	Relations between the IAH Executive and the C & N (feel free to send any information about contacts, support, etc., you feel could be changed or improved)	Relations with the IAH Executive are very positive and I have found interactions particularly in relation to the planning of meetings and sessions at IAH Congresses very helpful.

10	Please use this space to insert any other information or to send any comment you haven't had the opportunity to insert in any of the previous points	<p>The organisers of the scientific programme for the 42<sup>nd</sup> IAH Congress in Rome did not enable Session Convenors to make critical decisions regarding their sessions. This may have been an oversight but it should not be repeated for future IAH Congresses.</p> <p>As a convenor of Session 3.2 on Climate Change, I was encouraged to prepare a session description which I did and undertook the organisation and execution of the peer</p>
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		<p>review of abstracts submitted to this session. I was permitted, however, no input into the decision of oral and poster presentations and the scheduling of these. Essentially, I am a “convenor” but play no role in actually organising the session. I respect that the organisers put in a huge amount of work to organising the congress and all sorts of decisions are made without external input. However, convenors of sessions at IAH Congresses should ideally convene.</p> <p>From a scientific perspective, it is undesirable. As a Convenor, I know the material (perhaps better than the conference organisers) and could have put together a much more strategic session than has been permitted by those less connected to the material. Indeed, isn't that the point of having convenors? If this situation continues in future congresses, it would become a substantial disincentive to get involved in the organisation of IAH congresses and my guess is that this is not what the IAH Secretariat would want. Of course the situation in Niagara Falls and Marrakesh was quite different.</p>
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Date and signature of the person(s) responsible for completing this form



22 August 2015

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# ANNEX A

<p>Point 3. Refer here to the general activities listed in the original Application Form, point 8:</p> <p>(add also the other activities you mentioned in point 9 of the Application Form)</p>	<p><i>Group Meetings</i> <i>Sessions at Conferences</i> <i>Stand-alone Specialist Meetings/Symposia</i> <i>Training Workshops</i> <i>Exchange of Knowledge</i> <i>Dissemination of Knowledge</i> <i>Research</i> <i>Liaison / Interaction with other groups / organisations</i> <i>Education</i> <i>Expert Advice e.g. to UN / Governments</i></p>
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