

IGU Commission for Water Sustainability

Annual Report 2013

Chair: Professor Claudio Cassardo, Italy.

Vice-chair: Professor Kazuki Mori, Japan.

1. Meetings

1.1 Commission Conference, Kyoto, Japan

The annual conference was held in Kyoto, Japan, in August, organised by Professor Kazuki Mori and colleagues from the Nihon University, Japan, in collaboration with the Local Committee of the Regional IGU conference held during the same period in the same place.

The conference was successful. About 50 delegates attended the sessions, and 13 papers were presented. Four sessions were organized: Water resources and climate change (Joint session with the Commission on Climatology); Water pollution and water in urban environments; Groundwater management; and Hydrological process and watershed management.

As usual, it attracted a large contingent from the “local” area – Japan but also East Asia, as well as long-standing members from Italy, Germany and South Africa. A good number of sound research papers of international interest were presented.

A short fieldtrip allowed us to visit the Lake Biwa Canal Museum, operated by the Waterworks Bureau, City of Kyoto, illustrating how the water system of the metropolitan city of Kyoto is working utilizing water from one of the oldest lakes on Earth.

1.2 Extra Commission Conference, Lanzhou, China

The Steering Committee member Prof. Chansheng He, with the help of the Chair, organized a special conference in Lanzhou, on 12-14 August, immediately after the Japanese conference. The title of the Conference was “International Conference on Water Sustainability in Arid Regions”.

Among the organizers, there were: the Center for Dryland Water Resources Research and Watershed Science, the Key Laboratory of Western China’s Environmental System (MOE), and the Research School of Arid Environment & Climate Change, all belonging to the Lanzhou University, and the Cold and Arid Regions Environmental Engineering and Research Institute, the Institute of Geographical Science and Natural Resources Research, and the Xinjiang Institute of Ecology and Geography, from the Chinese Academy of Sciences.

This was an internal meeting of the Commission which nonetheless attracted a large number of non-members from various countries offering plenty of opportunity for scientific interactions within and outside sessions. Despite the vicinity (in space and time) to the Japanese conference, the meeting was very successful. About a Hundred of scientists attended from several nations, with different backgrounds, while some 60 researchers gave talks or presented posters. After the twelve plenary presentations during the first day, four sessions were organized in the other two days: Climate change and hydrological cycle; Landscape processes and patterns; Water resources management; and Water and Ecosystem Services.

After the conference, several field trips were organized: among these, the most remarkable one from a hydrological point of view was that to Lake Qinghai, the largest lake in China with an area of 4500 km², a saline and alkaline lake located in China's Qinghai province on an endorheic basin, about 100 km west of the provincial capital of Xining at 3,205 m a.s.l., in a depression of the Tibetan plateau. Twenty-three rivers and streams empty into Qinghai Lake, most of them seasonal. Five permanent streams provide 80% of total influx. The lake has fluctuated in size, shrinking over much of the 20th century, but increasing since 2004.

2. Future meetings

The Steering Committee of the Commission for Water Sustainability, during the Kyoto conference, after the audit of the status of the art about the possibility of organizing a meeting in Croatia during 2014 from its Croatian member Ivan Canjevac, has confirmed the intention of having a separate Commission meeting in Dubrovnik, Croatia, on 24-28 August, 2014 just after the Regional IGU Conference in Krakow.

This allows Commission members to also attend the meeting in Krakow.

Dubrovnik is a beautiful city in which there is the possibility to have the meeting in a building belonging to the university.

The first circular will be distributed among the members before Christmas holidays. Dr. Ivan Canjevac and his local colleagues arrange the meeting.

The Commission is also trying to contact the organizers of the GEWEX meeting, to be held in The Hague, The Netherlands, in July 2014, in order to have the possibility of a joint session on water sustainability.

3. Collaborations

The Commission for Water Sustainability during 2013 has opened a link with the WMO Commission for Hydrology in a couple of areas: i) guidelines for selecting flood forecasting models for different purposes and under different boundary conditions; and ii) drafting/process for a report on the benefits of numerical weather prediction for operational forecasting. The Commission is grateful to its valuable member Dr Charlie Pilling, Chief Hydrometeorologist at the UK Met Office, for having facilitated the establishment of this link.

During the Kyoto conference, the Commission ~~has~~ organized a session (entitled "Water resources and climate change") joint with the IGU Commission for Climatology. Despite the not particularly high number of participants, this has constituted a way of promoting the interdisciplinarity and ensure links and collaborations among IGU Commissions, as suggested by the IGU boarding committee.

Past chair Tony Jones has been appointed Chief Assessor for Phase 7 of UNESCO's International Hydrological Programme (2008-2013). He has enlisted the help of Steering Committee member Professor Frank Winde and they will be reporting in March 2014. The Report will form the basis for two other reports, one by a representative from the World Bank on future funding, the other by a representative from a Management & Evaluation organization on future management structures.

Apart from external collaboration the Commission has also made efforts to establish collaborative projects amongst its members. Having been awarded a competitive mobility grant by the University of Turin, Prof. Cassardo and Prof. Winde established an international student exchange project in the field of remote-sensing-based water modeling. The project was designed by Prof. Winde and conducted by Ms. Ines Cerenzia during a 3-month stay in South Africa. Preliminary results of the joint project were presented by Prof. Cassardo at the Kyoto conference

4. Publications

While, abstracts of accepted papers are commonly published in a dedicated volume handed to registered participants at the beginning of the conference, either electronically or in hard copy, this has unfortunately not been the case at the Kyoto meeting. Given the significance of abstracts for grasping the contents of talks and recording scientific work the lack of a dedicated abstract volume is most unfortunate. In future events it should be made sure that such omission does not reoccur.

Unfortunately, the Commission so far has not published papers from its meetings in 2012 and 2013.

However, papers presented at the Lanzhou meeting have been submitted shortly after the conference and are in the process of being reviewed and selected for publication in an accredited journal of choice as determined by the local organizers.

Furthermore, the Commission currently explores the possibility to publish a special edition in a IF-indexed and peer-reviewed scientific journal, consisting of a selection of unpublished research presented at the last Commission meetings.

Past chair Tony Jones has been enlisted to edit a new *Handbook of Water Resources* for the British publisher Routledge, for which planning is now complete. Tony has selected three other colleagues as co-editors: Steering Committee member Prof Natalia Frolova (Russia), former Committee member and past president of the International Water Resources Association Prof Jun Xia (China), and Tom Cech (USA), professor at the Metropolitan State University of Denver and author of *Principles of Water Resources: History, Development, Management and Policy* (Wiley).

5. Miscellanea

The new web page of the Commission, which is continuously updated, can be found at the following URL: <http://iguwater.wordpress.com/>. The new Webmaster is Dr. Ivan Canjevac.