

IAHS Bureau: International Commissions (IC)

President Name: Xiaohong Chen, Elango Lakshmanan

International Commission: ICWQ, WATER QUALITY

Names of participants and role(s) of each officer:

Role	Name of person	Activities/Responsibilities (e.g. communication)
Co-President (2023-2025)	Xiaohong Chen	Mark long-term strategy and annual work plan, ensuring the commission accomplishes its mission.
Co-President (2021-2023)	Elango Lakshmanan	Mark long-term strategy and annual work plan, ensuring the commission accomplishes its mission.
Past-President	Wouter Buytaert	Advising and suggesting the commission on its longterm plans
President-elect	Dedi Liu	Participating in the preparation of activities to take up the responsibility of the commission
VP	Remegio Confesor	Associating the presidents' jobs
VP	Stefan Krause	Associating the presidents' jobs
VP	Ann van Griensven	Associating the presidents' jobs
Secretary	Alena Bartosova	Communication and coordination
ECC Representative	Bertil Nlend	Networking and strengthening the early career hydrologists

Which UPH(s) does the commission contribute to? (No 1-23: check
<https://www.tandfonline.com/doi/full/10.1080/02626667.2019.1620507>)

1. Is the hydrological cycle regionally accelerating/decelerating under climate and environmental change, and are there tipping points (irreversible changes)?

5. What causes spatial heterogeneity and homogeneity in runoff, evaporation, subsurface water and material fluxes (carbon and other nutrients, sediments), and in their sensitivity to their controls (e.g. snow fall regime, aridity, reaction coefficients)?

12. What are the processes that control hillslope–riparian–stream–groundwater interactions and when do the compartments connect?

15. What are the extent, fate and impact of contaminants of emerging concern and how are microbial pathogens removed or inactivated in the subsurface?

19. How can hydrological models be adapted to be able to extrapolate to changing conditions, including changing vegetation dynamics?

20. How can we disentangle and reduce model structural/parameter/input uncertainty in hydrological prediction?

22. What are the synergies and tradeoffs between societal goals related to water management (e.g. water–environment–energy–food–health)?

23. What is the role of water in migration, urbanisation and the dynamics of human civilisations, and what are the implications for contemporary water management?

Which Theme and WG of HELPING Decade the Commission contribute to? (See current status here
<https://iahs.info/Initiatives/Topic-for-the-Next-IAHS-decade/helping-working-groups/>)

1. HELPING with global and local interactions
2. HELPING with holistic solutions for water security

Work plan for 2025

PERIODICAL COMMISSION WORKSHOP	The 7th IAHS-ICWQ Workshop Flood-Drought Disaster Chain and Water Ecological Degradation in the Changing Environment Date: November 15 -17, 2025 Topics (not limited to): 1. Intelligent monitoring of hydrology and water ecology for early perception of water risk 2. Extreme storm and non-point source pollution in the changing environment 3. Flood-drought-aquatic ecology modeling and risk early warning 4. Prediction of drought-flood alternation and flood-drought disaster chain 5. Water ecological responses to human activities and climate change 6. Storm surge - heavy rain - flood - waterlogging - ecological degradation "multi-encounter" and its derivative disaster occurrence 7. Simulation, prediction and assessment of flood and drought disasters and their derivative composite disasters 8. Restoration and governance of water ecological degradation			
COMMUNITY PAPER	Topic	Authors (*-corresponding author)	The percentage of development	When to be submitted
	Earth greening and climate change reshaping the patterns of terrestrial water sinks and sources. <i>PNAS</i> , 2025, 122 (11): e2410881122.	Yu Yan, Zhiyong Liu*, Lei Chen, Xiaohong Chen*, Kairong Lin*, Zhenzhong Zeng	100%	2025
	IAbout 868 Cal. Yr BP Tsunami Event at the Northern South China Sea Revealed from Offshore Sediments. <i>GLOBAL AND PLANETARY CHANGE</i> (2025) https://doi.org/10.1016/j.gloplacha.2024.104685	Yuming Wang, Xiaohong Chen*, et al.	100%	2025
	Impact of Landscape Patterns on Water Quality in Urbanized Rivers at Characteristic Scale: A Case of Pearl River Delta, China. <i>Environmental Management</i> . DOI : 10.1007/s00267-024-02017-w	Lie Huang, Xiaohong Chen*, et al.	100%	2025
	A Framework for Characterization of Drought Events at the Basin Scale Based on High-Resolution Terrestrial Water Storage Reconstruction. <i>IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing</i> . Accepted.	Ze Yuan, Xiaohong Chen*, et al.	100%	2025

	Decomposition-Based Reconstruction Scheme for GRACE Data with Irregular Temporal Intervals. <i>Journal of Hydrology</i> . Accepted.	Ze Yuan, Xiaohong Chen*, et al.	100%	2025
	Appropriate spatiotemporal scale selection for water use simulation in China, <i>Journal of Hydrology</i>	Zhang, J., Liu, D. *, Xu, Y., Xiong, L., Chen, J., Chen, H., Yin, J.,	100%	2025
	A general chopping peak function for a reservoirs group flood control regulating. <i>Journal of hydrology</i> 660 (2025) 133448 A general chopping peak function for a reservoirs group flood control regulating. <i>Journal of hydrology</i> 660 (2025) 133448	Zhenyu Mu, Dedi Liu* , Zhenyu Wang, Yuling Zhang, Lihua Xiong, Jie Chen, Hua Chen, Jiabo Yin.	100%	2025
	Assessing spatially-compounding drought probabilities in inter-basin water diversion: Insights from the Tao River water diversion project in China. <i>Journal of Hydrology: Regional Studies</i> 59 (2025) 102438.	Wan Zhou, Dedi Liu* , Yufei Cheng, Junde Wang.	100%	2025
	Assessing the Impacts of Water Diversion Project on Water Resource System Sustainability. <i>Journal of the American Water Resources Association</i> . 2025	Wen Chen, Ruikang Zhang, Dedi Liu* , Junde Wang, Yufei Cheng, Jie Chen.	100%	2025
	A paper on variations of water quality and quantity in surface water and ground water under climate changing	ICWQ members	details will be discussed within ICWQ	2025, Springer
DIGITAL WATER GLOBE	A few officers have uploaded their research work on the digital globe. Others have registered their names.			
OTHER INITIATIVES (presentations and communications of the commission members)	(1) A draft Memorandum of Understanding of Strategic Cooperation among China-Africa Water Association, State Key Laboratory of Water Resources Engineering and Management, Sino-Africa Joint Research Center, Chinese Academy of Sciences and have been submitted to IAHS. it will be hopeful approved this year. (2) We will co-organize the China-Africa Water Forum Series No. 9 on 21-26 July 2025, in University of Rwanda, Kigali. (3) All commission members will take part in XIIth IAHS Scientific Assembly 2025 in Roorkee, India (4) Two commission officers have submitted a collaborative project for funding under			

	<p>the BRICS call. The topic of the project is Mitigation and Adaptation Strategies to Combat the Climate Change Induced Impacts on Water Sector</p> <p>(5) Prof. dr. ir. H.H.G. Savenije, the Former President of IAHS, will be invited by Prof. Xiaohong Chen to give a presentation in the School of Civil Engineering, Sun Yat-sen University in Zhuhai, China between 2025-2026</p> <p>(6) Prof. Amir AghaKouchak, the President of ICRS Remote Sensing, is invited by Prof. Xiaohong Chen to visit and communicate in the School of Civil Engineering, Sun Yat-sen University in Zhuhai, China on 7-10 Nov, 2024</p> <p>(7) Prof. Chongyu Xu at the University of Oslo, is invited by Prof. Xiaohong Chen to give a presentation in the School of Civil Engineering, Sun Yat-sen University in Zhuhai, China in December, 2025</p>
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Guidelines for filling the Workplan:

"PERIODIC COMMISSION WORKSHOP"

The commission is organising this workshop regularly. It should be an IAHS event, not a session during a conference. It can be co-organised with other Commissions or other organisations. In the latter case, the role of IAHS should be identifiable in the organisation.

Typically, such workshops have an annual frequency, have a relatively small number of participants (in the range of 40-100), and are particularly precious for collecting the community and focusing on common and emerging research topics.

In the work plan table the expected information about the Commission Workshop.

If the commission has already finalised the organisation, the webpage link of the workshop and the date and the venue should be specified. If the commission has just started to plan and organise, the date and venue or the available information should be specified. If the commission recently held the workshop, few summary information should be included in the table and the report link or the pdf should be provided.

The report format is simple and described below:

First page: Commission name, title of the workshop, date, venue, Group Picture of the event

Second page: Statistical summary of the workshop: number of participants, Countries, number of oral presentations, number of posters (if they were present).

From the third page: Scientific Program

Last page: list of participants (EDI?)

"COMMUNITY PAPER"

The final aim of the commission is to shed light on research topics related to the commission as well. Collecting the community and working together the expected outcome is to provide a community paper that summarises milestones or crucial emerging topics.

In the work plan table, some information on the community paper status are expected. For instance, it would be useful to know if the commission has been planning the community paper, the topic, authors, the percentage of development, and when it is expected to be submitted. This information is crucial for coordinating such activity with the HSJ Editors.

You can find some examples here:

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"DIGITAL WATER GLOBE"

As you know the DWG is finally active: <https://dwg.smhi.se/dwg/> and we are looking forward to receiving the contribution from the IAHS community on case-studies and links to data and IAHS publications.

Since our community is shaped by the Commissions, Committees and Working Groups we invite you to advertise the DWG and include all the officers' Personal profiles in the visualisation tool (linked to other items).

The information requested in the table is the number of items that you plan to include in the DWG during the next months and the number you did in the last period.