

The 7th IAHS-ICWQ Workshop and 2nd ISHW Conference

Introduction

(2-4 November 2026, Wuhan, China)

Under the dual stressors of accelerating climate change and intensifying anthropogenic activities, the global water system is experiencing increasingly severe challenges, including the uneven spatiotemporal distribution of water resources, the rising frequency and intensity of extreme hydrological events, pervasive water pollution, and the progressive degradation of aquatic ecosystems. In this context, hydrological science has become indispensable for assessing water resources, understanding water cycle dynamics, managing water quality, and protecting aquatic ecological integrity.

The International Association of Hydrological Sciences (IAHS), as one of the most influential academic organizations in the field, has long been committed to advancing hydrological research and fostering international cooperation worldwide. Its International Commission on Water Quality (ICWQ) focuses specifically on promoting the assessment and management of water quality within hydrological systems. Since its inaugural session in Guangzhou in 2017, the IAHS-ICWQ Workshop series has been successfully convened six times, addressing core issues such as “Water Quantity and Water Quality in the Water-Energy-Food

Nexus” and, most recently in 2024, “Flood-Drought Disaster Chains and Aquatic Ecological Degradation under a Changing Environment.” The series has established a robust tradition of high-level academic exchange.

Concurrently, the International Symposium of Hydrological Sciences and High-efficiency Water Resources Utilization was first held in Wuhan in 2019, attracting more than 80 leading experts and scholars around the world. The symposium provided a platform for in-depth discussions on frontier scientific questions, including sponge city development, climate change impacts, and the application of artificial intelligence and information technologies in water sciences.

To further expand the international dialogue on hydrological sciences and high-efficiency water resources utilization, the present conference will jointly convene the 7th IAHS-ICWQ Workshop and the 2nd International Symposium of Hydrological Sciences and High-efficiency Water Resources Utilization under the Changing Environment (2nd ISHW). The theme of the conference is “**Water Resources Evolution and Adaptive Regulation under Climate Change.**” Four specific topics will be addressed:

- **Water Cycle Evolution and Extreme Hydrological Event Responses under Climate Change – focusing on the mechanisms governing water cycle alterations, the formation and prediction of extreme events (floods**

- and droughts), and corresponding adaptation strategies.
- Water Quality Evolution and Aquatic Ecological Security in a Changing Environment – addressing trends and mechanisms of water quality deterioration, degradation processes of aquatic ecosystems, ecological restoration technologies, and water security assurance.
 - Integrated Regulation of Modern Water Networks and High-efficiency Water Resources Utilization – covering national water network construction, optimal water resources allocation, agricultural and industrial water conservation technologies, and the development of unconventional water resources.
 - Frontiers in AI and Big Data for Hydrological and Water Sciences – exploring innovative applications of artificial intelligence, big data analytics, digital twin technologies, and remote sensing in hydrological monitoring, simulation, forecasting, and water resources management.

The conference is jointly hosted by the International Association of Hydrological Sciences (IAHS), the International Association for Hydro-Environment Engineering and Research (IAHR), and the Chinese National Commission for IAHS (IAHS-CNC). It is organized by the State Key Laboratory of Water Resources Engineering and Management and the School of Water Resources and Hydropower Engineering, Wuhan University. The co-organizers include the Hubei Key Laboratory of Smart

Yangtze River and Hydroelectric Science, the Bureau of Hydrology of the Changjiang Water Resources Commission, Wuhan Dashuiyun Technology Co., Ltd., and the Youth Working Committee of the Changjiang Technology and Economy Society.

The conference will take place from **2-4 November 2026 at Wuhan University**, China. All invited participants are free to attend the conference for making oral presentations. Posters related to our topics are also welcomed and the abstracts should be submitted to jiayu_z@whu.edu.cn **before October 2nd, 2026**. If you have any questions on this conference, please don't hesitate to contact Dr. Jiayu Zhang (cell phone: +86-15070459941, E-mail: jiayu_z@whu.edu.cn).

We cordially invite scholars and experts around the world in the fields of hydrological sciences and water resources management to gather in Wuhan for in-depth discussions on frontier issues in water sciences under the changing environment, thereby contributing to global water security and the advancement of sustainable development goals.





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