



9th International Conference on Flood Management (ICFM9)

On February 18-22, 2023, GRIPS and ICHARM co-hosted the 9th International Conference on Flood Management (ICFM9). The conference was convened in Japan for the first time in 12 years since ICHARM hosted the 5th meeting in Tokyo, Japan, in 2011. It is held every three years, providing a forum for researchers and practitioners with different backgrounds to gather and discuss various issues related to floods and share the latest knowledge, information, and experience with fellow experts in order to achieve significant academic and cross-disciplinary changes.

The following outlines the preparation, planning, and implementation of the conference.

a) Preparation

After proposing hosting ICFM9 at the ICFM webinar in August 2021, ICHARM discussed the goals that we should aim for as the host institution and set two goals. The first goal was to gather and sort out diverse knowledge and use it to redefine ICHARM's activities, including its direction and role, in water-related disaster management, as necessary. We regarded ICFM9 as an excellent opportunity for this purpose since it would allow us to overview flood-related research, education, and policies from an international perspective and expose us to up-to-date, wide-ranged, scientific knowledge in Japan and overseas through the planning and operation of ICFM9. Our second goal was to strengthen the connection with and among the graduates of our master's and doctoral programs and thus enhance our capacity to organize international cooperation.

Also, in order for ICFM9 to be a bridge from APWS4 to the United Nations Water Conference, we deemed it necessary to ensure proper coordination between the core topics of ICFM9, i.e., science, technology, education, and capacity development, and domestic policies in Japan. To address this issue, we consulted with Director General INOUE Tomoo of the Water Management and Land Conservation Bureau of MLIT and Professor HIROKI Kenzo of GRIPS, who is also the executive director of HELP, and decided, with their agreement, that they and Executive Director KOIKE Toshio would co-chair the ICFM9 Local Organizing Committee (LOC). We also decided to invite experts from industry, government, and academia to join LOC and provide advice on the planning and operation of ICFM9.

The overall theme of ICFM9 was set as "River Basin Disaster Resilience and Sustainability by All - Integrated Flood Management in the Post COVID-19 Era." The main part of the theme, "River Basin Disaster Resilience and Sustainability by All," is the official English translation of the new flood management policy addressed by MLIT of Japan. The new policy was developed to cope with the impacts of climate change, and the related budget plans were passed in April 2021, though some projects had started earlier in FY2020 to meet the urgent need to strengthen flood resilience in some parts of the country.

We considered ICFM9, which was planned to be held in Japan, a unique opportunity to discuss Japan's new flood control policy internationally from the perspective of science and technology. However, we also decided that the title "River Basin Disaster Resilience and Sustainability by All" would not be used to refer to Japan's new policy at ICFM9, but rather to mean "enhancing water disaster resilience and sustainability by all stakeholders in the basin."

ICHARM staff then discussed the composition of the sessions, considering the overall theme and the first goal. Several "theme teams," each consisting of three or four staff members, were formed to propose, plan, and manage the sessions. After organizing the session concepts and plans, we contacted leading international experts in each research area and requested them to serve as session chairs. The representative of each theme team also served as co-chair for each session. In addition, in order to achieve the second goal, ICHARM held an online seminar on February 25, 2022, with 80 participants, about half of the graduates from ICHARM's graduate-level programs. The Follow-up Seminar was also held on February 22, 2023, and 17 graduates who were in Japan for ICFM9 joined the meeting along with many other participants.

The Tsukuba Tourism and Convention Association kindly covered the operating expenses of site visits. UNESCO supported participation fees and domestic travel expenses for 10 young researchers from developing countries.

b) Conference

On February 18, 2023, a high-level symposium, "Integrated Water Cycle Management in the Post COVID-19 Era," was held at GRIPS, attended by His Majesty the Emperor of Japan.

The morning session opened with greetings from Dr. Han Seung-soo, the chair of HELP and the former prime minister of the Republic of Korea. The session continued with keynote



The high-level panel in the symposium
(Source: GRIPS)

lectures: H.E. Ambassador Csaba Kőrösi, the president of the 77th Session of the UN General Assembly, on game changers that should be adopted at the UN Water Conference; Professor Petteri Taalas, the secretary-general of WMO, on an early warning initiative; and Mr. Pablo Bereciartua, the chair of the Global Water Partnership on resident-participatory water management. ICFM Chair Slobodan P. Simonovic followed, speaking about decision making based on scientific evidence.

In the afternoon session, GRIPS Professor Hiroki moderated a high-level panel entitled "Integrated Flood Management in the Post-Corona Era," with expert panelists in various fields, including Dr. Johannes Cullmann, the director for SDGs of the Office of the 77th President of the UN General Assembly, and Executive Director Koike.

The plenary session, held at the Tsukuba International Conference Center from the 19th to the 21st, was attended by 394 flood experts from 41 countries and regions, including Japan. Under its

grand theme, presentations and discussions took place on important issues to be addressed in the post-corona era, including how to rebuild a flood-resilient society and how to transform the current flood management into comprehensive and multi-layered water-related disaster risk reduction that combines hard and soft measures and takes climate change impacts into account. Despite the lingering effects of the coronavirus crisis, the number of participants was almost double the expected number, and each session and project was successful.

At the opening ceremony, ICFM Chair Simonovic and PWRI President FUJITA Koichi made opening remarks on behalf of the organizers. Mr. OKUMURA, the director-general of NILIM, and Mr. IGARASHI, the mayor of Tsukuba City, also greeted the participants. After the greetings, Professor Emeritus of Yamanashi University TAKEUCHI was awarded the ICFM Lifetime Achievement Award by ICFM. Professor KOTANI, the executive vice president for research of Tohoku University and the vice president of the International Science Council, delivered the keynote speech online entitled “The responsibility of science, entrusted to us by society.”

Four plenary sessions included panel discussions on coordinated activities, lectures on integrated flood management and response to changes, and showcases to share best practices from Asia, Africa and Latin America. A total of 24 sessions were held, with nine parallel sessions, and 143 oral presentations were given. There were 48 poster presentations, and after the review, four poster presentations were awarded at the closing ceremony.

ICHARM researchers co-chaired all 24 sessions and delivered presentations on research projects using the end-to-end approach, such as the development of a method for creating a sediment and driftwood hazard map, a real-time water level forecasting system for small and medium-sized rivers, and a virtual flood experience system.

There were also five special sessions on cross-cutting themes and eight technology exhibition booths to showcase private companies' flood-related technologies. As a side event, ICHARM hosted a public symposium entitled "Can You Survive an Unexpected Flood?" with the support of the River Foundation.

At the closing ceremony, Mr. KUSANO, the assistant vice-minister for Disaster Prevention and Risk Communication of MLIT delivered a presentation entitled “Japan’s New DRR Policy: River Basin Disaster Resilience and Sustainability by All,” followed by the presentation of the Statement of ICFM9. Finally, Professor Paul Kovacs, the executive director of the Institute for Catastrophic Loss Reduction (ICLR), announced that ICLR will host ICFM10 in summer 2026.

The final ICFM9 statement calls for:

- Utilizing the end-to-end approach that links cutting-edge science with on-site cross-disciplinary decision-making and action;
- Promoting the collecting, archiving, and sharing of data and information;
- Improving models of increasingly intense floods and their economic impacts;
- Accelerating knowledge integration;
- Enhancing the fostering of facilitators; and

- Conducting flood management based on an understanding of social inequalities and indigenous peoples' rights.

On the afternoons of the 21st and 22nd, site visits, conducted in cooperation with JAXA and MLIT's river offices, were offered to those who wished to participate.



Participants in ICFM9

(Source: ICHARM Activity Report FY2022)