



ICHARM



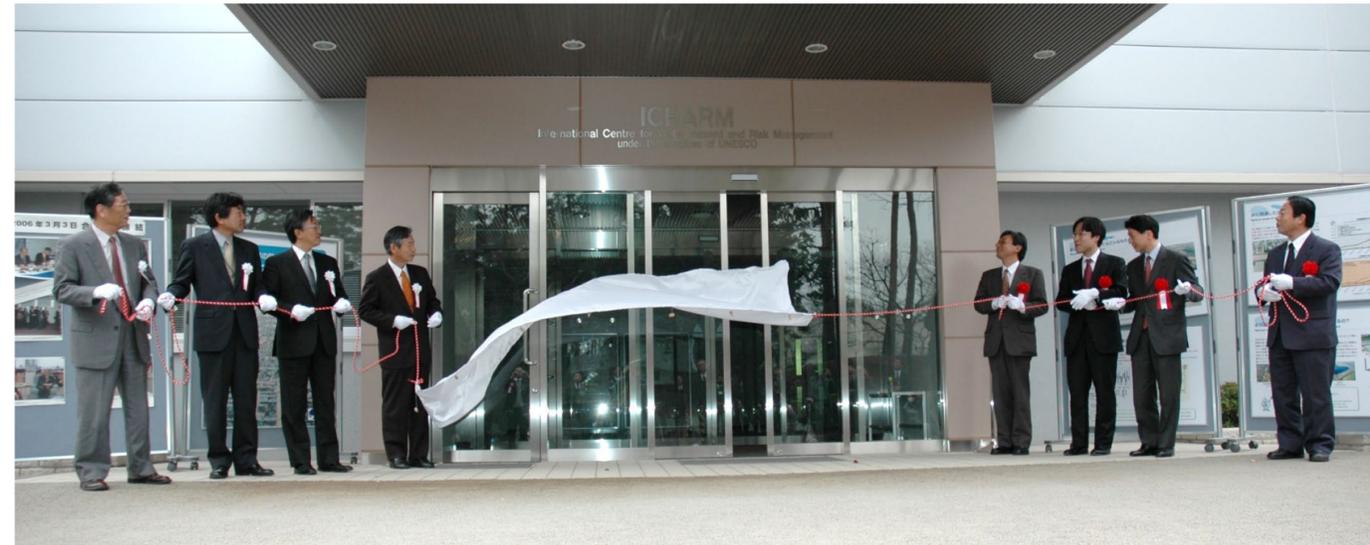
International Centre for Water Hazard and Risk Management
under the auspices of UNESCO,
Public Works Research Institute (PWRI), Japan



ICHARM will contribute to the mitigation of water disaster damage around the world by combining **research activities, capacity building activities, and information network activities** with keywords such as "**climate change,**" "**sustainability,**" and "**food and energy.**"

Launch of ICHARM under the auspices of UNESCO

On **6th March 2006**, based on the agreement between UNESCO and the Government of Japan, the **International Centre for Water Hazard and Risk Management (ICHARM)** was officially established as a **UNESCO category II center** and under the **Public Works Research Institute of Japan**.



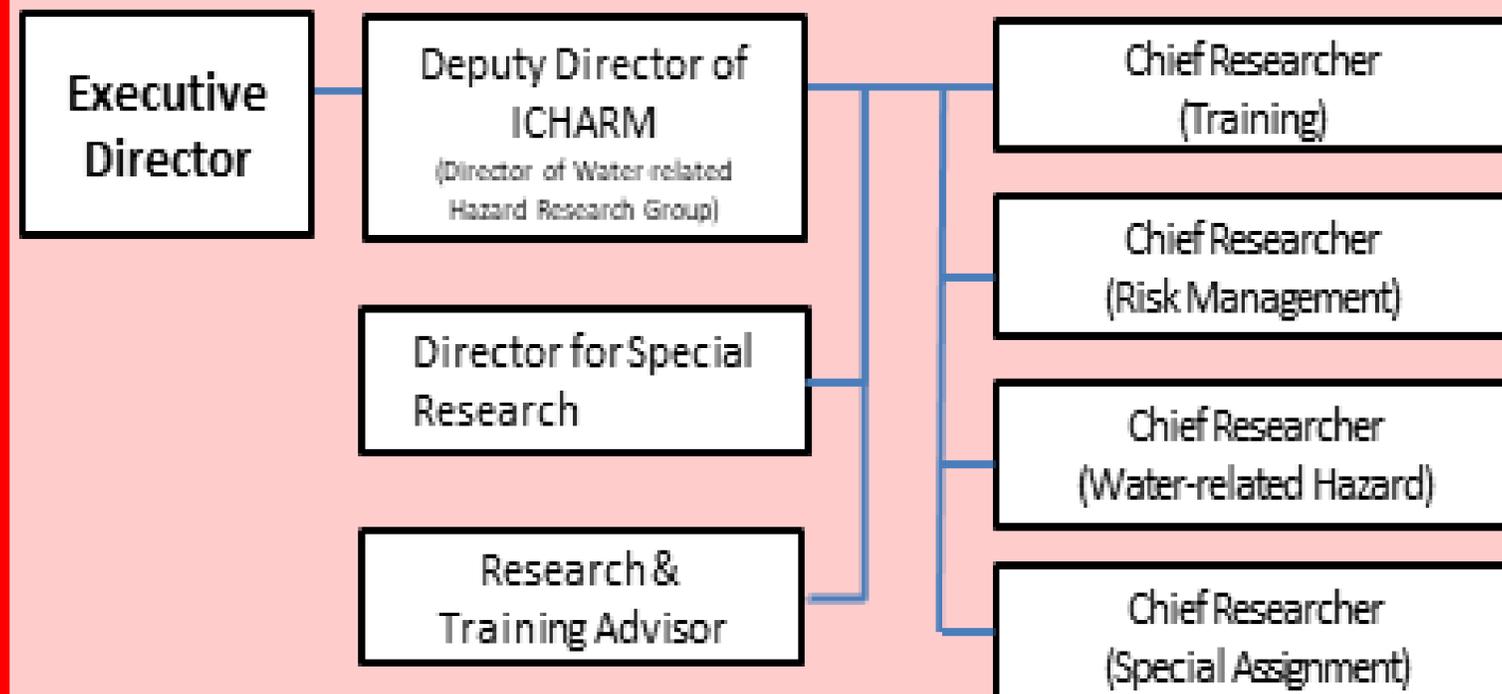
Organization

Public Works Research Institute (PWRI)

(About 40 staff)



International Centre for Water Hazard and Risk Management (ICHARM)

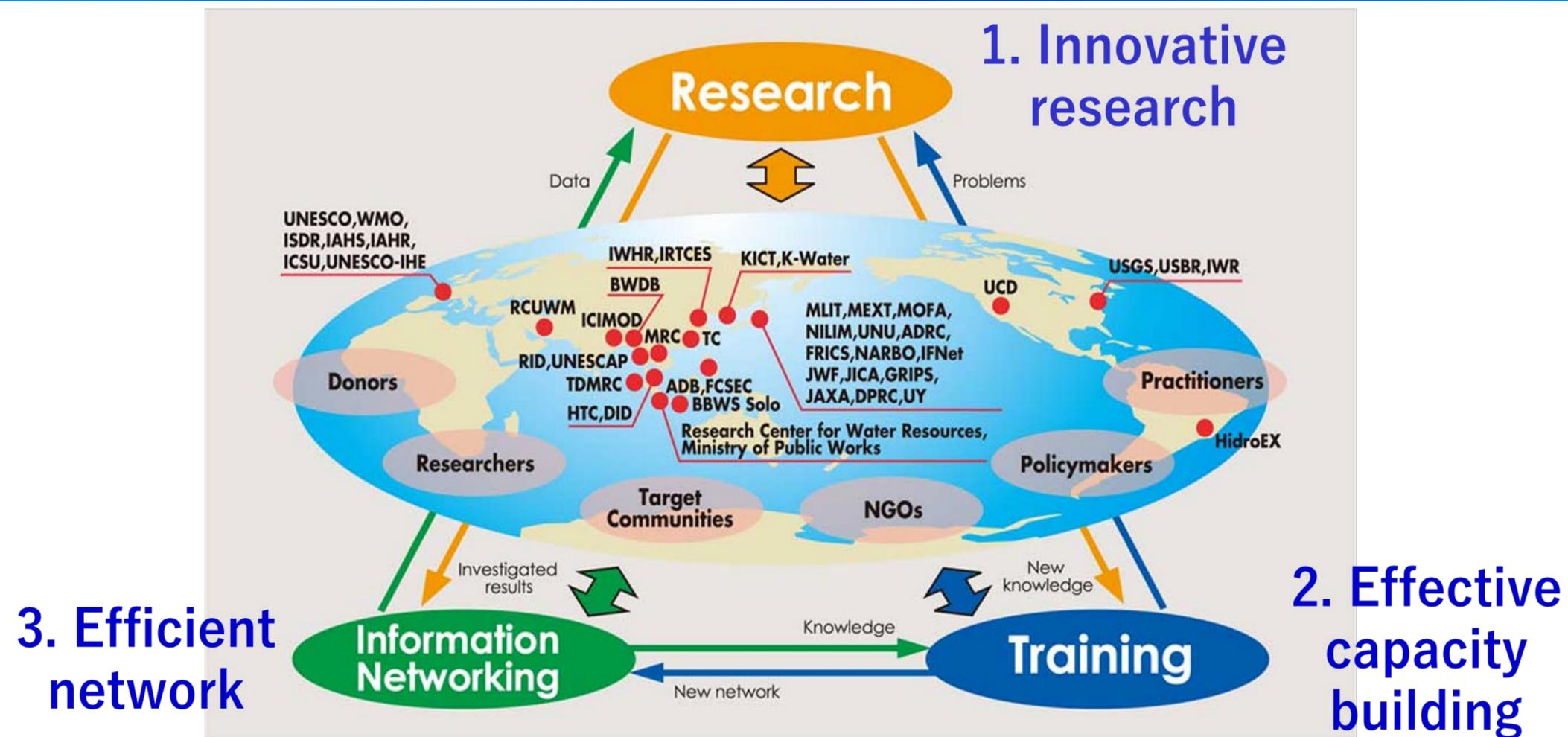


Mission

The mission of ICHARM is **to serve as the Global Centre of Excellence for Water Hazard and Risk Management** by, inter alia, observing and analyzing natural and social phenomena, developing methodologies and tools, building capacities, creating knowledge networks, and disseminating lessons and information in order to assist governments and all stakeholders in managing risks of water-related hazards at global, national, and community levels.



Three Pillars of ICHARM Activities



- International Flood Initiative (IFI)
- UNESCO-IHP
- WMO CHy
- Typhoon Committee

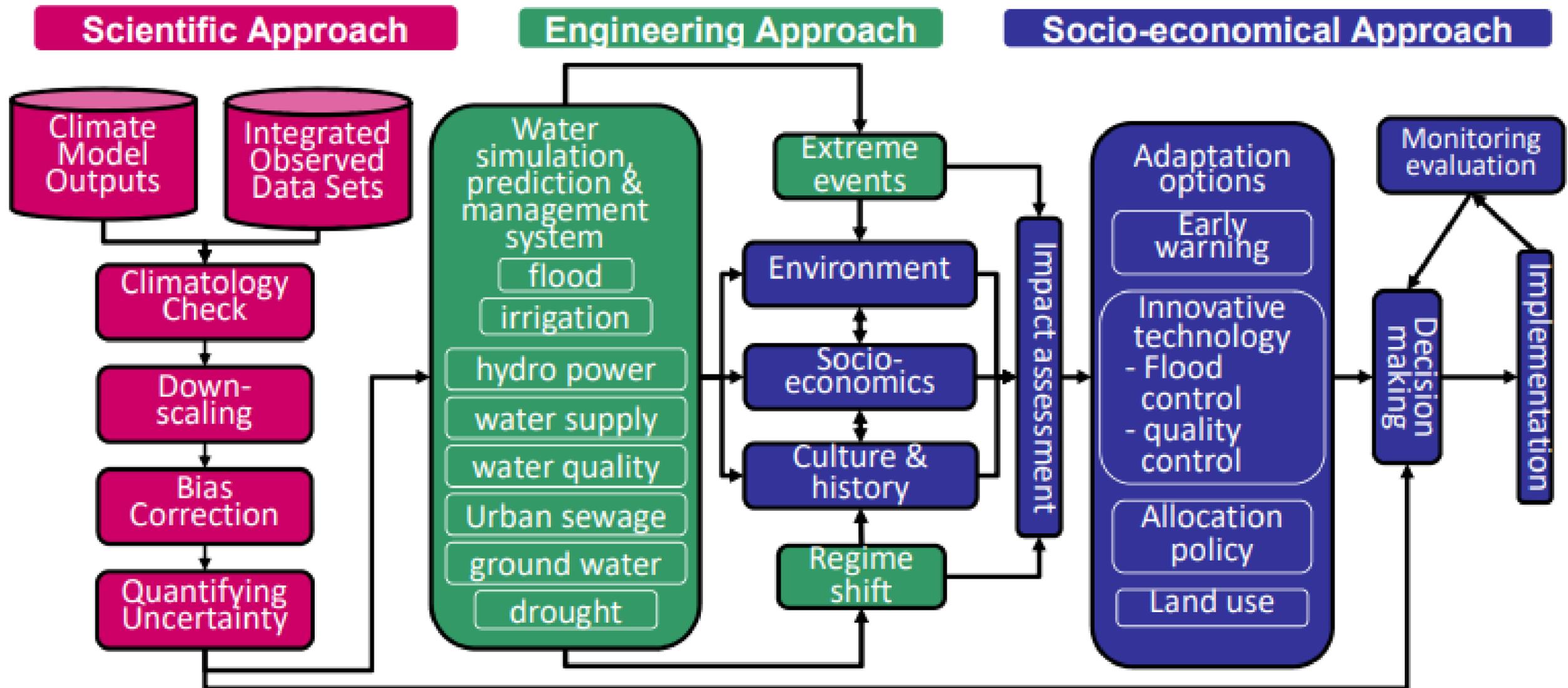
- Doctorate Course
- Master Course
- Short-term training
- Follow-up Seminar

1. Innovative Research <End-to-end approach>

Meteorology
Observation/Modeling/Prediction

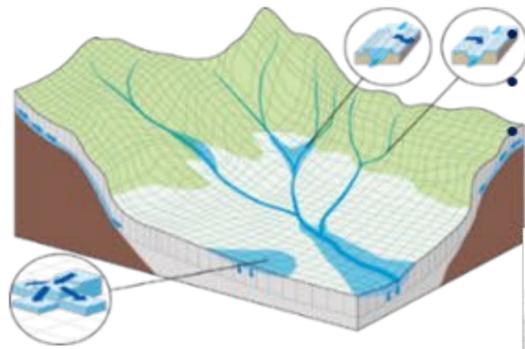
hydrology
Observation/Modeling/Prediction

Interdisciplinary
Decision Making Support



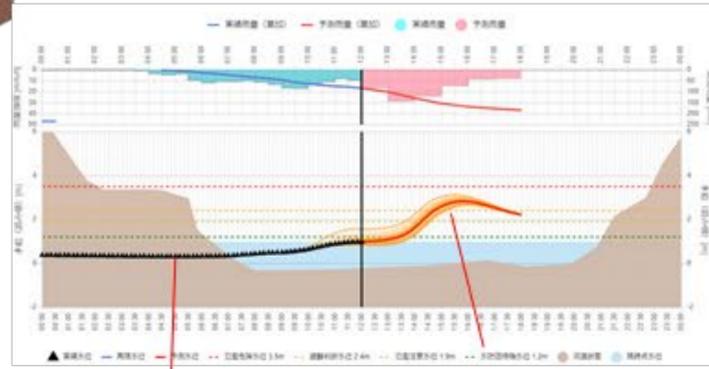
1. Innovative Research <End-to-end approach>

Hydrology



Flood risk assessment
Assessment of climate change
Realtime flood forecast

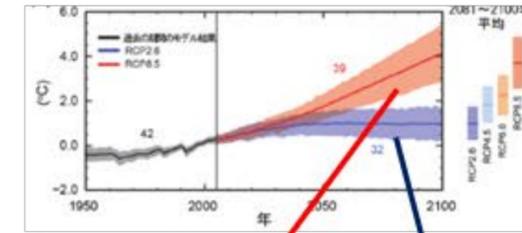
“RRI model”
Rainfall-Runoff-Inundation



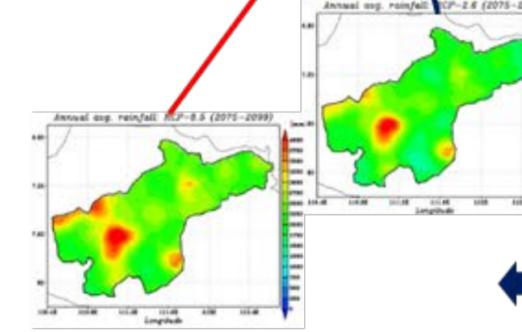
Observed water level

Predicted water level

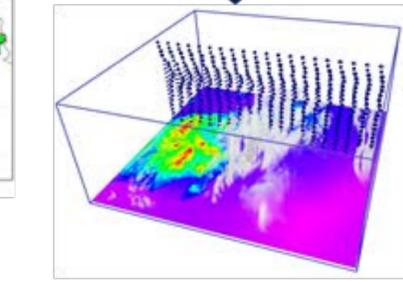
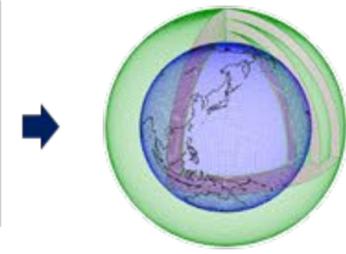
Meteorology



Global Warming Scenarios



Global Circulation Model

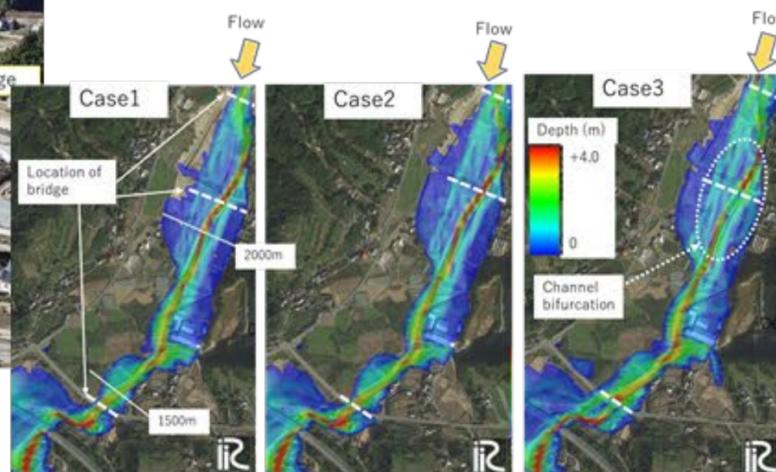


Regional Circulation Model

Sediment transport / Channel change



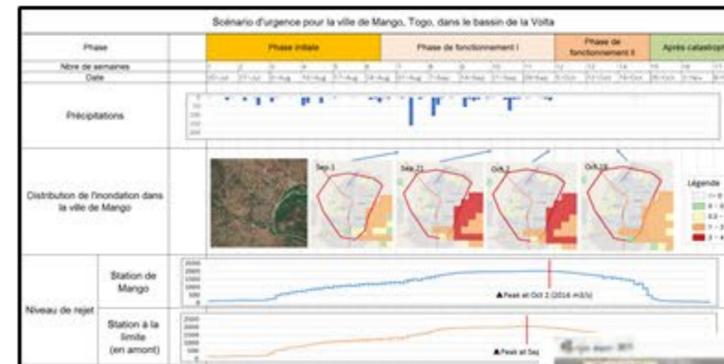
Gofukuya River, 2019



water

water + sediment

Risk Assessment and Risk Communication



Contingency planning

Risk communication using VR



2. Effective Capacity Building



- ✓ **Master's and Ph.D. courses of disaster management program**, in collaboration with National Graduate Institute for Policy Studies (GRIPS) and Japan International Cooperation Agency (JICA)

*Most students are **Government Officials** coming from **Developing Countries**, to do practical study & research based on the water-related disaster issues of their own countries.

- ◆ **182** graduates from Master's course
- ◆ **17** graduates from Ph.D course
- ◆ **Total 199 graduates from 37 countries**



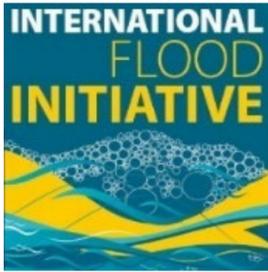
- ✓ **Follow-up Seminar for ICHARM graduates**
 - To share and discuss their experience and challenges among the alumni.
 - To provide advice and information of the latest knowledge and good practices.



ICHARM was presented **the Japan Construction International Award** by national government for its Master's program.

Global Networking of Experts and Practitioners

3. Efficient Networking



International Flood Initiative (IFI)

International Flood Initiative (IFI) is a **joint initiative in collaboration with such international organizations** as UNESCO-IHP, WMO, UNDRR, UNU, IAHS and IAHR since 2005. **ICHARM is the secretariat of IFI.**



Platform on Water Resilience and Disasters

This Platform is a **national framework** in which **various entities** such as government agencies and organizations related to flood disaster management, NGOs, resident representatives, and academia participate, discuss, and collaborate to promote activities for water resilience and disaster mitigation.

Plenary meeting on the Platform in each country



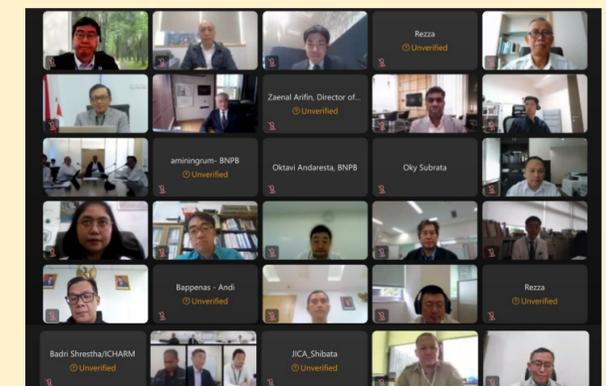
The Philippines



Sri Lanka



Thailand

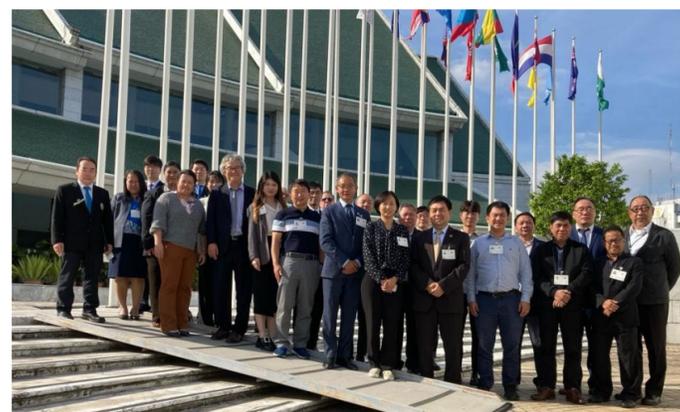


Indonesia

Typhoon Committee (TC)

TC is an intergovernmental community jointly organized in 1968 by the Economic and Social Commission for Asia and the Pacific (ESCAP) and WMO to promote and coordinate the development and implementation of plans to minimize human and physical damage caused by typhoons in the Asia-Pacific region.

Senior Researcher of ICHARM currently **chairs the Working Group of Hydrology (WGH)**, leading its activities with support from MLIT.



Participants in the WGH meeting (28th Nov. – 1st Dec., 2023)



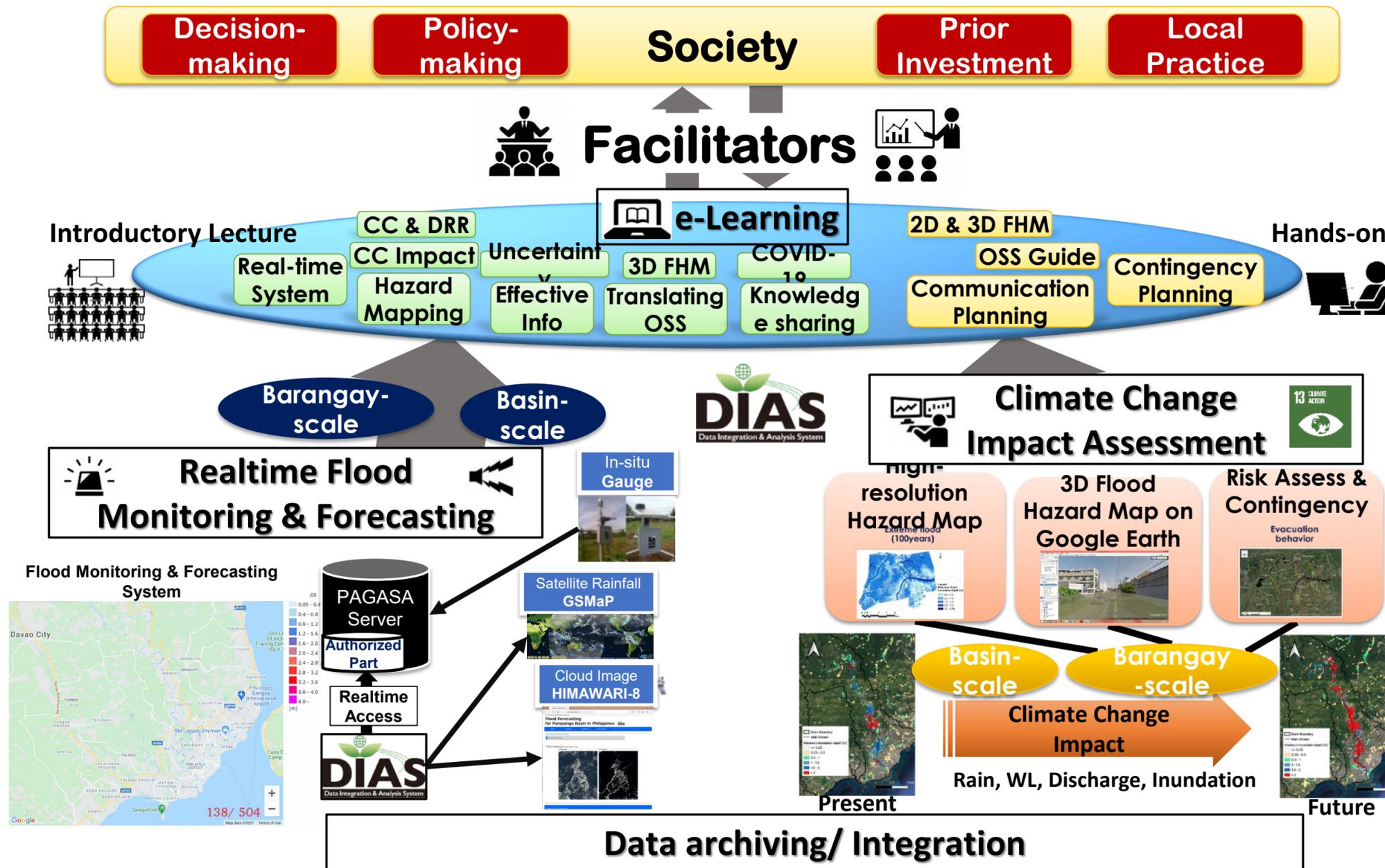
Participants in TC's 56th Annual session (27th Feb. – 2nd Mar. 2024)

“Platform on Water Resilience and Disasters”



In the Philippines

Online Synthesis System for Sustainability and Resilience (OSS-SR) in Davao City, Philippines



<Reference>

“Co-design for enhancing flood resilience in Davao City, Philippines”, M. Miyamoto, D. Kakinuma, T. Ushiyama, A. W. M. Rasmy, M. Yasukawa, D. G. Bacatos, A. C. Sales, T. Koike and M. Kitsuregawa, Water 2022, 14, 978

3. Efficient Networking

ICHARM continues its efforts to support collaboration and coordination among organizations and mainstream disaster risk reduction by holding sessions and side events at major international conferences while sharing good practices and knowledge of water-related disaster risk management.



4th Asia Pacific Water Summit
held in Japan, Apr 2022



9th International conference on Flood Management (ICFM9)
hosted by GRIPS and ICHARM in Japan in Feb.2023



The 6th UN Special Thematic Session
UN 2023 Water Conference: in NY, USA in March 2023



Side event during the UNESCO International symposium “Climate Risk, Vulnerability and Resilience Building” held in Apr. 2023

- ✓ Through these conferences, ICHARM advocated concepts of **“Water Cycle Integrator (WCI)”** consisting from “knowledge integration”, “capacity integration”, and “process integration.”
- ✓ The WCI were registered in the **“Water Action Agenda”** as one of a commitment.

Thank you for your attention!



PWRI building and Mt. Tsukuba

