Newsletter

unesco
Centre
Under the auspices
of UNESCO

ICHARM
International Centre for Water
Hazard and Risk Management
under the auspices of UNESCO

ICHARM

PWRI
Public Works Research Institute
National Research and
Development Agency, Japan

Volume 19 No. 1
Issue No. 72
April 2024

ICHARM

International Centre for Water Hazard and Risk Management
under the auspices of UNESCO

Message from Executive Director

Two Sides of the Same Coin

In March 1977, the first United Nations Water Conference was held in Mar del Plata, Argentina. In Japan, "Water Day" was established in May of that year by Cabinet approval. At that time, Japan was in the midst of rapid economic growth, and the demand for water was surging. The day was established "to raise public awareness and deepen understanding of the finite nature of water resources and the preciousness of water." Over time, in 2014, the concept of the "Healthy Water Cycle" was defined in the Basic Act on Water Cycle as "a state in which the functions of water are appropriately balanced between the activities of human society and the conservation of the natural environment." The act was enacted to maintain and restore this state. Currently, Japan's "Water Day" is designated under this act.

Executive Director KOIKE welcoming local students with ICHARM international students at the ICHARM Open House on April 24, 2024

ICHARM留学生とともにつくば市の中高生を歓迎
（2024年4月24日　ICHARMオープンデーにて）

In March 2023, 46 years after the first UN Water Conference, the second UN Water Conference was held at the UN Headquarters in New York. "Water for Climate, Resilience, and Environment" was one of the themes of the Interactive Dialogue, providing a precious opportunity to discuss water-related disasters in a UN forum. Coincidentally, 2023 was the hottest year in recorded history. It was announced that the average global temperature in 2023 was 14.98 degrees Celsius, 1.48 degrees Celsius higher than before the Industrial Revolution. Many changes have occurred over the past 46 years, with climate change one of the most significant. Heavy rainfall has become more frequent all over the world, even in semi-arid and arid countries. In response to these situations, Japan has developed a method of incorporating climate change into flood control planning using cutting-edge science and technology and launched a new flood management policy, "River Basin Disaster Resilience and Sustainability by All," which expects all stakeholders to take part in implementing the policy in all parts of the basin, upstream and downstream.

Floods and droughts that cause disasters are two sides of the same coin of climate, water, and social systems, and in between are water management and the water environment during normal times. Through the two pillars of "Healthy Water Cycle" and "River Basin Disaster Resilience and Sustainability by All," we will continue our worldwide efforts to achieve sustainable development by raising awareness of the value of water and building resilience to increasingly severe water-related disasters.

April 30, 2024
KOIKE Toshio
Executive Director of ICHARM

コインの両サイド

1977 年の 3 月、アルゼンチンのマルデルプラタにおいて、初めて国連水会議が開催されました。日本では、この年の 5 月、閣議了解によって「水の日」が制定されました。当時の日本は高度経済成長の真っただ中で、水の需要が急増しておりました。そこで、「水資源の有限性、水の貴重さ等について国民の関心を高め、理解を深めるため」に定められたものです。時を経て 2014 年には、人間社会の営みと自然環境の保全に果たす水の機能が適切にバランスしている状態が「健全な水循環」と定義され、その維持と回復を目的として、水循環基本法が制定されました。現在、日本の「水の日」は、この水循環基本法の下で定められております。

第 1 回国連水会議から 46 年後に当たる 2023 年 3 月、2 回目の国連水会議がニューヨークの国連本部で開催されました。ここでは、「気候、レジリエンス、環境のための水」が Interactive Dialogue のテーマの一つとして取り上げられ、水災害が国連場で議論される貴重な機会となりました。折しも、2023 年は観測史上最も暑い年でした。世界の平均気温は 14.98 度で、産業革命前から 1.48 度上昇していると報告されました。この 46 年間、様々な変化が起こりましたが、その中でも最も大きな変化の一つが気候の変化です。世界各地で豪雨が頻発し、半乾燥から乾燥帯の国々でも大洪水が発生ししています。このような事態に対応して、日本では最先端の科学技術を駆使して気候の変化を洪水対策の計画に盛り込む手法が開発され、流域のあらゆる関係者が、上流、下流のあらゆる場所で進める「流域治水」の取組が始まっています。

災害を引き起こす洪水と渇水は、気候と水と社会のシステムの、いわばコインの両サイドであり、その間に平時の水づかいや水環境があり、私たちは全体を一体として取り組む姿勢が必要であります。「健全な水循環」と「流域治水」という 2 本柱を持って、水の価値観を一層高め、激甚化する水災害にも対応できて、持続的に発展できる社会づくりに取り組んでいきたいと思います。

Contents

International Flood Initiative (IFI)

The International Flood Initiative (IFI) is a worldwide framework to promote collaboration in flood management among international organizations such as UNESCO, the World Meteorological Organization (WMO), the United Nations University (UNU) and the United Nations Office for Disaster Risk Reduction (UNDRR). ICHARM has been its secretariat since the establishment of IFI.

In October 2016, the Jakarta Statement towards an interdisciplinary and transdisciplinary partnership to consolidate flood risk reduction and sustainable development, was adopted by the member organizations of IFI. As part of this effort, the Philippines, Sri Lanka, Pakistan and Myanmar have already decided to establish a Platform on Water Resilience and Disasters involving various government agencies, and ICHARM has been supporting their decision as facilitator.

This article reports the IFI platform project in the Philippine, Thailand and Sri Lanka.

国際洪水イニシアティブ（International Flood Initiative: IFI）はユネスコ（UNESCO）、世界気象機関（WMO）、国連大学（UNU）、国連防災機関（UNDRR）などの国際機関が世界の洪水管理推進のために協力する枠組みで、ICHARMは、IFIの事務局を担当しています。

2016年10月に承認された「洪水リスク軽減と持続可能な開発を強固にするための学際的な協力に向けた宣言文（ジャカルタ宣言）」を受け、各国および関係機関と協働しながら、統合洪水マネジメントに貢献する活動を進めています。特に、フィリピン・スリランカ・パキスタン・ミャンマーにおいては、各国の関係機関による「水のレジリエンスと災害に関するプラットフォーム」の構築に向けた取り組みが始まり、ICHARMはファシリテーターとしてその活動の促進を図ってきました。

本号では、フィリピン、タイ、スリランカにおけるIFIプラットフォームプロジェクトについて報告します。

Recent developments toward further expansion of the IFI platform project in the Philippines
フィリピンにおけるIFIプラットフォーム活動の更なる展開に向けて

ICHARM, as the secretariat for the International Flood Initiative (IFI), supports various countries, primarily in Asia, in carrying out the "Platform for Water Resilience and Disaster" project. The platform aims to contribute to developing and implementing flood-control and climate-adaptation measures in each country by encouraging the active engagement of government agencies, local organizations, and other stakeholders concerning disaster management.

The Philippines has been particularly active in this endeavor under the strong leadership of national/local agencies. To accelerate and expand platform activities in the country, the 4th Platform plenary meeting was held in Davao City on July 3, 2023, followed by the Davao City Water Summit on July 4. Various stakeholders participated in both events. The plenary meeting agreed on the following future projects (see ICHARM Newsletter Vol. 69 for more information):

1. Development of the Online Synthesis System (OSS-SR) and expansion of facilitator training
2. Creation of policy proposals based on science and technology
3. Nation- and world-wide expansion of the platform activities

Based on this meeting agreement, ICHARM signed a Memorandum of Understanding (MOU) on January 24, 2024, with the Davao branch office of the Department of Science and Technology (DOST) and the Davao del Sur State University to strengthen collaboration in the Davao region and expand it to the neighboring city of Digos. Under this MOU, the three parties will collaborate in designing and implementing the following plans:

- ▶Implementation of OSS-SR in Davao del Sur Province
- ▶Flood forecasting in the Digos River
- ▶Inclusive water education for diverse groups of residents
- ▶Natural disaster risk management
- ▶Urban planning coupled with natural disaster risk management: case study in Digos City

In expanding the activities to Digos city, unique characteristics of the region will be taken into consideration; Digos City, located near the foothills of Mount Apo, is the

ICHARMでは、国際洪水イニシアティブ（International Flood Initiative: IFI）の事務局として、IFIの枠組みのもと、アジアを中心とする各国で、災害に関する政府機関・地方組織などが参画する「水のレジリエンスと災害に関するプラットフォーム」（以下「プラットフォーム」という）の構築活動支援に取り組んでいます。本プラットフォーム活動を通じ、各国における洪水対策や気候変動適応策にかかる政策立案、およびその実践につながることを目ざしています。

特にフィリピンにおいては現地関係機関の主導により精力的に活動が進められています。2023年度はフィリピンにおけるプラットフォーム活動の加速化と新たな展開を図るために、7月3日に第4回プラットフォーム全体会合、翌4日にダバオ市水サミットをダバオ市で開催し、あらゆるステークホルダーが参加しました。全体会合では、①知の統合オンラインシステム（OSS-SR）開発とファシリテーター育成の水平展開、②科学技術に基づく政策提言の作成、③プラットフォーム活動の全国および国際へのスケールアップ、が今後の方針としてまとめられました（Newsletter Vol.69で既報）。

この会合サマリーに基づき、ダバオ地域における一層の連携強化および隣接するディゴス市への拡張を目的とし、2024年1月24日に科学技術省ダバオ局、ダバオ・デル・スル州立大学、及びICHARMの3者にてMOU（覚書）を締結しました。本同意においては、具体的に下記の協力を行うこととしています。

▶ダバオ・デル・スル州における

OSS-SR の展開
▶ディゴス川における水災害予測
▶幅広い個人を対象とした包摂的な水に関する教育
▶自然災害リスクマネジメント
▶自然災害とリスクマネジメントのための都市計画　ーディゴス市におけるケーススタディー

なおディゴス市は、アポ山麓に多くの先住民族が生活しており、先住民族にとっての水災害リスク軽減や民族独自の経験や洞察と OSS-SR の融合が今後のテーマとして挙げられます。

現地機関による OSS-SR の将来的な実装・運用については、流域管理アライアンスによる主導が検討されており、ダバオ川流域では OSS-SR 小委員会の立ち上げなどが進められています。流域管理アライアンスはフィリピンの主要 18 流域の各河川に設置されていることから、ダバオ OSS-SR の事例は全国展開の際のパイロットケースとなることも見込まれます。流域管理アライアンスは環境天然資源省（DENR）が所掌しているため、2023 年 11 月には ICHARM から 5 名の研究者が DENR を訪問し、次官と流域管理室長にダバオ市の取り組みを伝えるとともに、OSS-SR の現地実装を含むプラットフォーム活動への参画を依頼しました。

home to many indigenous people, and their perspectives, experiences, and insights about flooding and its management in developing a local OSS-SR.

OSS-SR's implementation and operation are expected to be led by some local organization. To this end, an OSS-SR working group has been set up for the Davao River basin and started discussions about designating the River Basin Management Alliance as the responsible organization since its branch offices are stationed for 18 main river basins across the country. Davao's case may be an excellent pilot case for expanding the OSS-SR project nationwide. As the River Basin Management Alliance is positioned under the Department of Environment and Natural Resources (DENR), five ICHARM researchers visited DENR in November 2023 and briefed the deputy secretary and the head of the alliance about Davao City's initiatives and requested participation in platform activities, including the implementation of OSS-SR.

Upper row Center: DSSC Dr. Grace Bacaltos, Lower row Center: DOST XI Regional Director Anthony C. Sales, Right: DSSC President Augie E. Fuentes (Source: DOST XI's Facebook)
写真上段　中央：DSSC グレイス・バカルトス氏、写真下段　中央：DOST XI アンソニー・サレス局長、右：DSSC　オージー・フエンテス学長（DOST XI フェイスブックより）

(Written by NAITO Kensuke)

The 1st Plenary Meeting of "Platform on Water Resilience and Disasters in Thailand" in Bangkok
「タイ王国における水のレジリエンスと災害に関するプラットフォーム」第 1 回全体会合がタイ・バンコクにて開催

2024 年 3 月 25 日に、タイ・バンコクにおいて「タイ王国における水のレジリエンスと災害に関するプラットフォーム」第 1 回全体会合が開催されました。ICHARM はこれまで、台風委員会の活動や名古屋工業大学が日本側代表を務める地球規模課題対応国際科学技術協力プログラム「産業集積地における Area-BCM の構築を通じた地域レジリエンスの強化」（SATREPS Area-BCM）等を通じて同国における水災害リスク低減やレジリエンス向上をサポートしてきました。それらに基づいて今後のさらなる省庁間連携や最新科学技術の実装を加速させるために、タイ王国の水に関するステークホルダーはこの度、水のレジリエンスと災害に関するプラットフォームを立ち上げることとなりました。同プラットフォームは ICHARM が事務局を務める国際洪水イニシアティブ（IFI）の活動としても位置付けられています。

会合には 16 機関から計 81 名が参加しました。国家水資源局（ONWR）の Surasri Kudtimonton 事務局長、鈴木和哉 JICA タイ事務所長、国連アジア太平洋経済社会委員会（ESCAP）の丸一大輔 氏による開会スピーチで会合が始まり、その後

On March 25, 2024, the 1st Plenary Meeting of "Platform on Water Resilience and Disasters in Thailand" was held in Bangkok, Thailand. ICHARM has been supporting the country in disaster risk reduction and resilience enhancement through various opportunities, such as the Typhoon Committee and the Science and Technology Research Partnership for Sustainable Development project titled "Regional Resilience Enhancement through Establishment of Area-BCM at Industry Complexes in Thailand" (SATREPS Area-BCM), which is led by Nagoya Institute of Technology. To achieve further cross-sectoral collaboration and implement cutting-edge science in society for these purposes, water-related stakeholders in Thailand have decided to establish the Platform on Water Resilience and Disaster. The platform project is one of the important projects promoted by the International Flood Initiative, for which ICHARM serves as the secretariat.

The meeting was attended by a total of 81 participants from 16 organizations. It began with opening remarks by Dr. Surasri Kudtimonton, the secretary-general of the Office of the National Water Resources (ONWR), Mr. SUZUKI Kazuya, the chief representative of JICA Thai Office, and Mr. MARUICHI Daisuke, the economic affairs officer of Disaster Risk Reduction at the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). This was followed by presentations by four high-level speakers: Dr. Thanet Somboon, the director of the Bureau of Water Management and Hydrology at the Royal

The Plenary Meeting in progress
全体会合の様子

Irrigation Department (RID); Ms. Payao Mungngam, the deputy director-general for technical services at the Thailand Meteorological Department (TMD); Dr. Boyboon Rassamethes, the director of the Hydro-Informatics Institute (HII); and Dr. KOIKE Toshio, the executive director of ICHARM. Ms. Supinda Wattanakarn, the director of the Hydrology Division at RID, then explained activities under Annual Operation Plan 7, "Flood Resilience Enhancement through the Platform on Water Resilience and Disasters," which is one of the activities planned by the Typhoon Committee's Working Group on Hydrology. She also proposed a roadmap to achieve the plan under the platform.

More presentations continued on ongoing projects, addressing the SATREPS Area-BCM project, a near-real-time flood forecasting system, which is developed and implemented by Chulalongkon University, and the platform projects in other regions, such as the facilitator training in the Philippines. The meeting then moved on to presentations on activities related to governance, systems, and capacity building by Thai agencies: the Department of Climate Change and Environment (CCE), TMD, HII, ONWR, the Department of Water Resources of the Ministry of Natural Resources and Environment (DWR), the Electricity Generating Authority of Thailand (EGAT), the Geo-Informatics and Space Technology Development Agency (GISTDA), the Thailand Department of Disaster Prevention & Mitigation (DDPM), Chulalongkon University, and Kasetsart University.

After the series of presentations, Executive Director KOIKE facilitated a discussion session. The participants actively discussed scientific topics, such as what data, i.e., satellite, in-situ or other data, should be used for what purposes and what components should be added to the platform activities. At the end of the meeting, the participants agreed that ONWR will lead the development of the platform implementation plan and that a second meeting will be held once the plan is ready. ICHARM will continue to provide the necessary support to successfully implement the platform in Thailand, utilizing experiences from other project regions.

Participants in the Plenary Session (Source: ONWR Facebook)
参加者による集合写真（ONWR フェイスブックより）

Thanet Somboon 王立灌漑局（RID）・水管理部長、Payao Mungngam タイ気象局（TMD）・テクニカルサービス副部長、Boyboon Rassamethes 水文情報研究所長（HII）、小池俊雄 ICHARM センター長によるハイレベルスピーチが行われました。これに続き、Supinda Wattanakarn RID 水文局長から台風委員会水文部会の活動テーマの 1 つである AOP 7 " 水災害レジリエンスのプラットフォームを通じた洪水レジリエンス向上 " について紹介されたとともに、プラットフォームの元での今後の活動のロードマップが示されました。

その後、タイにおいて現在実施中の SATREPS Area-BCP プロジェクト、特にチュラロンコン大学で開発・実装している準リアルタイム洪水予測についての紹介があり、続いてフィリピンにおけるファシリテータ育成等、「水のレジリエンスと災害に関するプラットフォーム」の他地域での活動についての紹介がありました。タイ側からは、気候変動環境局（CCE）、タイ気象局（TMD）、水文情報研究所（HII）、国家水資源局（ONWR）、鉱物資源局（DMR）、王立発電公社（EGAT）、地理情報・宇宙技術開発機関（GISTDA）、内務省防災軽減局（DDPM）、チュラロンコン大学カセサート大学からガバナンス、システム、人材育成のテーマに関するそれぞれの機関での活動紹介がされました。

閉会を前に、小池センター長の取りまとめのもと、衛星データや地上データ等どのようなデータを用いることが最適かといった科学的なトピックや、同地域におけるプラットフォームに追加すべき項目等を議論しました。最後に、国家水資源局が中心となってプラットフォーム実装プランを作成すること、その後第 2 回目の会合を開催することを参加者一同で同意しました。ICHARM は IFI 事務局としても、他地域でのプロジェクト経験を活かしながら、タイでのプラットフォームを通じた活動に今後とも貢献して参ります。

(Written by NAITO Kensuke)

The 5th Plenary Meeting of the Platform on Water Resilience and Disasters in Sri Lanka in Colombo
スリランカにおける第 5 回・水のレジリエンスと災害プラットフォームに関する会議開催

The 5th Plenary Meeting of the Platform on Water Resilience and Disasters in Sri Lanka was held on March 15, 2024, at Hotel Janaki in Colombo, Sri Lanka. More than 45 experts attended the conference, including four ICHARM researchers, Executive Director KOIKE Toshio, Senior Researchers Abdul Wahid Mohamed Rasmy and MIYAMOTO Mamoru, and Research Specialist TAMAKAWA Katsunori, and Associate Professor YASUKAWA Masaki of the University of Tokyo. Sri Lankan experts were from various domestic water-related agencies, such as the Irrigation Department, the National Building Research Institute (NBRO), the Disaster Management Center

2024 年 3 月 15 日に第 5 回・水のレジリエンスと災害プラットフォームに関する会議が、スリランカ・コロンボで開催されました。この会議にはスリランカのかんがい局、国家建築研究所（NBRO）、災害管理センター（DMC）、気象局（DOM）、マハウェリ管理局やスリランカ土地開拓・開発公社（SLLRDC）といった洪水・渇水に関係する機関から 45

名以上が参加しました。第 1 回会議を 2017 年 8 月 24 日、第 2 回を 2018 年 3 月 28 日、第 3 回を 2019 年 2 月 20 日、第 4 回を 2020 年 2 月 13 日と毎年実施してきましたがコロナ禍により 4 年ぶりの対面での開催となりました。

会議では、かんがい局の Eng. A. Gunasekara 局長が歓迎・開会の挨拶を述べ、ICHARM 小池俊雄センター長が IFI に関係する地球規模や地域規模での関連の活動紹介を行い、Mohamed Rasmy 主任研究員からスリランカにおける IFI に係わる活動の経緯や内容の紹介を報告しました。スリランカ国における各機関からの報告セッションでは、かんがい局 Director の Sugeeshwara Seenipellage 氏、NBRO の Dayan Munasinghe 氏、DOM の Nadeeka 氏、DMC の Anoja Senevirathna 氏、マハウェリ管理局の Imesh Kariyawasam 氏、SLLRDC の Eng. Thushari 氏による活動紹介がなされました。

ICHARM 側からの活動報告のセッションでは、ICHARM 修士課程卒業生（Sandrasegaram Nerojan 氏、Thilini Kaushalya 氏、Charya Jayathilaka 氏）より ICHARM での研究成果の発表の後、東京大学の安川准教授からスリランカのカル川を対象に構築している洪水予警報システムの概要の説明、宮本主任研究員から IFI の地域間連携に関する活動やその一環で実施しているファシリテーター育成のためのトレーニング、玉川専門研究員からはトレーニングのチュートリアルの内容について概要を紹介しました。

以上のスリランカ側、ICHARM 側からの報告を踏まえ、現地ファシリテーター育成のためのトレーニングの内容と開催に関する協議が参加者全員で行われ、トレーニングをフェーズ I とフェーズ II の 2 回実施することとし、フェーズ I は 2024 年 8 月頃にカル川を対象とした洪水予警報システムと洪水モニタリングや予測情報を基にした緊急時対応計画やリスクマッピングの実施、フェーズ II では気候変動に焦点を当て、気候変動の理解、影響評価、経済評価、適応計画をマハウェリ川やその他の河川流域を対象に実施することで合意しました。

会議の最後には、NBRO の Asiri Karunawardena 局長より閉会の辞として、第 5 回の会議が無事開催され積極的な議論が行われたことへの感謝が述べられました。

(DMC), the Department of Meteorology (DOM), the Mahaweli Administration Department, and the Sri Lanka Land Development Corporation (SLLDC). The first meeting was held on August 24, 2017, the second on March 28, 2018, the third on February 20, 2019, and the fourth on February 13, 2020, before the COVID-19 pandemic, and the fifth meeting took place in person for the first time in four years. The 5th Plenary Meeting of the Platform on Water Resilience and Disasters in Sri Lanka was held on March 15, 2024, at Hotel Janaki in Colombo, Sri Lanka. More than 45 experts attended the conference, including four ICHARM researchers, Executive Director KOIKE Toshio, Senior Researchers Abdul Wahid Mohamed Rasmy and MIYAMOTO Mamoru, and Research Specialist TAMAKAWA Katsunori, and Associate Professor YASUKAWA Masaki of the University of Tokyo. Sri Lankan experts were from various domestic water-related agencies, such as the Irrigation Department, the National Building Research Institute (NBRO), the Disaster Management Center (DMC), the Department of Meteorology (DOM), the Mahaweli Administration Department, and the Sri Lanka Land Development Corporation (SLLDC). The first meeting was held on August 24, 2017, the second on March 28, 2018, the third on February 20, 2019, and the fourth on February 13, 2020, before the COVID-19 pandemic, and the fifth meeting took place in person for the first time in four years.

The session began with a welcome address by Eng. A. Gunasekara, the director general of the Irrigation Department, followed by the opening remarks of Executive Director KOIKE Toshio, who presented global and regional activities related to the International Flood Initiative (IFI). Senior Researcher Rasmy reported the activities related to the platform in Sri Lanka. Sri Lankan experts also spoke about updates on their activities; the speakers included Director Sugeeshwara Seenipellage of the Irrigation Department, Mr. Dayan Munasinghe of NBRO, Ms. Nadeeka of DOM, Ms. Anoja Senevirathna Senevirathna of DMC, Eng. Imesh Kariyawasam of the Mahaweli Administration, and Eng. Thushari of SLLRDC.

In the session of activity reports from the ICHARM side, Mr. Sandrasegaram Nerojan, Ms. Thilini Kaushalya, and Mr. Charya Jayathilaka presented their research work done at ICHARM. Associate Professor YASUKAWA gave an overview of the flood forecasting and early warning system for the Karu River in Sri Lanka. ICHARM researchers also delivered presentations: Senior Researcher MIYAMOTO on IFI's inter-regional cooperation activities, including the training of facilitators, and Research Specialist TAMAKAWA on an overview of the content of the training tutorial.

Based on the reports from both sides, all participants discussed the facilitator training and decided that it would be conducted in two phases. They also agreed that Phase I would focus on flood forecasting and early warning systems and also contingency planning and risk mapping based on flood monitoring and forecasting information in the Kalu river basin. Phase II would focus on climate change, including understanding of the mechanism, impact assessment, economic assessment, and adaptation planning for the Mahaweli River and other river basins.

At the end of the meeting, Dr. Asiri Karunawardena, the director general of NBRO, gave closing remarks and expressed his gratitude for the active discussion and the success of the 5th meeting.

Participants in the 5th Plenary Meeting in Sri Lanka
「第 5 回・水のレジリエンスと災害プラットフォームに関する会議」への参加者

(Written by TAMAKAWA Katsunori and Abdul Wahid Mohamed RASMY)

Information Networking

ICHARM held an online seminar with the World Bank
世界銀行職員を対象としたオンラインセミナーを開催

ICHARM held an online seminar on January 30, 2024, to introduce its research and other activities to the staff of the World Bank. This event occurred following a proposal made by Mr. Saroj Kumar Jha, the World Bank's global director of water global practice, when he visited the Public Works Research Institute (PWRI) and had discussions on November 20 last year. There were 29 participants from the World Bank.

PWRI President FUJITA Koichi and Mr. Jha opened the seminar by addressing opening remarks. Mr. Jha made the following comments:

- The world is looking for more innovations and scientific knowledge to manage water scarcity, water access, and water resource management.
- The World Bank's new vision is "to create a world free of poverty on a livable planet." To achieve this goal, The bank has stepped up the support for developing countries to build more water-related resilience.
- The World Bank has financed 5 billion dollars annually to various countries and expects the financing to water-related projects to increase significantly. However, the bank does not want to do more of the same; instead, it wants to introduce different innovations, technologies, and science to its projects.
- The World Bank considers this seminar a very important part of the partnership between the two parties and hopes the discussions will lead to even stronger ties to jointly address water-related challenges.

Following the opening remarks, Deputy Director MORI Noriyuki provided an overview of ICHARM's activities, and its researchers presented their research. The presentations included hydrological analysis, which can also contribute to optimizing dam operations, and technologies to support policymakers in making informed decisions.

The presentations were followed by discussions, in which the participants from both sides talked about the use of satellite data in Africa, where ground data is scarce, the optimization of coordinated operations involving multiple dams, the implementation of a capacity development program at African universities, and a new framework for procurement procedures between the World Bank and ICHARM.

Finally, Ms. Eileen Burke, the World Bank's global lead of water resources management, and Executive Director KOIKE Toshio wrapped up the seminar by addressing closing remarks. Ms. Burke made the following comments:

- Many of the issues that ICHARM is dealing with are issues that the World Bank has prioritized to help its client countries build decision support systems for better disaster risk management, water resources management from real-time reservoir operations, and other water-related challenges.
- So many questions asked through the chat function show that the World Bank staff is very excited about the work that ICHARM is doing. They know that it is applicable to so many of their client countries.
- The World Bank hopes that the seminar will facilitate more extensive collaboration between the two organizations.

After the seminar, there were immediate requests for technical support for some World Bank projects, such as one in Nigeria. ICHARM is certain that the seminar was an excellent opportunity to promote its collaboration with the World Bank and also hopes that this will lead to a stronger partnership in the future.

令和6年1月30日、ICHARMは世界銀行職員を対象として、ICHARMの研究および活動内容を紹介するオンラインセミナーを開催しました。これは、昨年11月20日に、クマール・ジャー グローバル水本部長（Mr. Saroj Kumar Jha, Global Director, Water Global Practice）が土木研究所を訪問されて意見交換を行った際に先方から提案があり、この度実現したものです。世界銀行からは29名の参加がありました。

セミナー冒頭では、藤田光一土木研究所理事長およびジャー水本部長から開会のご挨拶を頂きました。ジャー水本部長からは以下のご発言がありました。

- 世界は、水不足、水へのアクセス、水資源管理のために、より革新的で、より科学的な知識を求めている。
- 世界銀行の新しいビジョンは「To create a world free of poverty – on a livable planet」であり、そのために世界銀行は途上国に対して水不足、水関連災害に対応できる強靭性を持つよう支援している。
- 世界銀行は、これまでも各国に対して年間50億ドルの融資を行っており、水関連のプロジェクトへの融資は増大している。しかし、これまでと同じことをするのではなく、これまでとは異なる革新的な科学技術を世界銀行の仕事に取り入れたい。
- 今回のセミナーはICHARMとのとても重要なパートナーシップであり、水分野においてより強固となることを期待している。

続いて、森グループ長からICHARMの活動概要について、各研究者からダム操作最適化を含む水文解析や政策決定者への意思決定支援に関する研究内容について、それぞれ紹介しました。

議論セッションでは、地上データが乏しいアフリカでの衛星データ活用やダム間連携の最適化、アフリカの大学での能力開発、世界銀行とICHARMとの調達手続きの新たな枠組みについて議論しました。

最後に、アイリーン・ブルケ グローバルリード（Ms. Eileen Burke, Global Lead, Water Resources Management）および小池ICHARMセンター長から閉会のご挨拶を頂きました。ブルケ グローバルリードからは以下のご発言がありました。

- ICHARMが取り組んでいる問題の多くは、より良い災害リスク管理のための意思決定支援システムの構築や貯水池のリアルタイム運用による水資源管理を支援するために、世界銀行が優先的に取り組ん

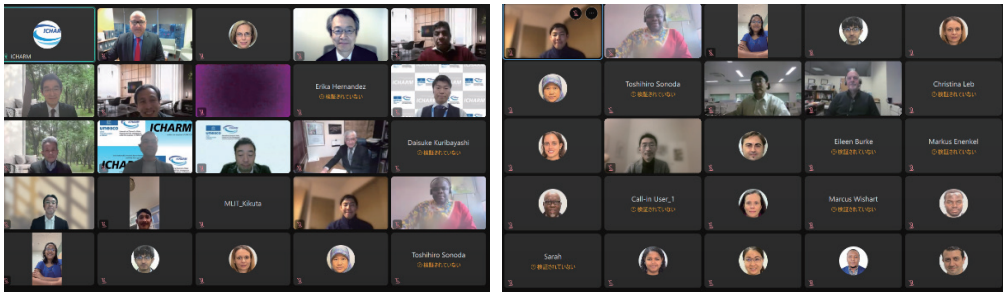
できた問題でもある。

- セミナーでのチャットでの質問の多さは、私たちの同僚が ICHARM が行っている仕事に対して非常に興奮していることを浮き彫りにしている。なぜなら、それは私たちの顧客である多くの国で応用できるからである。
- 今回のセミナーが、世界銀行と ICHARM のさらに大規模なコラボレーションの始まりになることを心から願う。

セミナー後、早速、世界銀行の個別プロジェクトへの技術的支援（ナイジェリアでのプロジェクトなど）への要請があり、ICHARM としては本セミナーをきっかけに世界銀行との連携を強めていきたいと考えています。

Mr. Saroj Kumar Jha, the global director of water global practice, addressing opening remarks
クマール・ジャー本部長の開会挨拶

Ms. Eileen Burke, the global lead of water resources management, addressing closing remarks
アイリーン・ブルケ　グローバル・リードの閉会挨拶



Participants in the online seminar
参加者集合写真

Executive Director Koike (left) and Senior Researcher Rasmy, answering questions from World Bank participants
参加者からの質問に答える小池センター長とラスミー主任研究員

(Written by KURIBAYASHI Daisuke)

The DPWH delegation visited ICHARM for effective collaboration
フィリピン公共事業道路省（DPWH）からの来訪

2024 年 3 月 28 日、フィリピン の Department of Public Works and Highways (DPWH) から、プロジェクトマネージャーの Grecile Christopher R. Damo 氏をはじめとする 5 名が来訪し、ICHARM の研究員と意見交換を行いました。なお本訪問の実現は、株式会社建設技研インターナショナルのご協力を頂きました。

森グループ長による ICHARM 紹介に始まり、新屋上席研究員から「民間部門によるリスクマネジメント」、宮本主任研究員から「フィリピン・ダバオにおける OSS-SR の取組」、柿沼研究員から「中小河川における洪水予測」の各研究紹介を行いました。

参加者からは、「フィリピンの地形は日本と似ており参考になる」、「降雨データは別の機関（PAGASA）が管理しているので互いに連携する必要がある」、などの意見が出されました。

DPWH は、ICHARM が IFI 事務局として活動を支援している、「IFI 水と災害に関するプラットフォーム」のフィリピン側主要機関であり、今

A group of five representatives from the Department of Public Works and Highways (DPWH) in the Philippines, led by Project Manager Grecile Christopher R. Damo, visited ICHARM on March 28, 2024, and discussed various issues with its researchers. The visit was made possible thanks to the cooperation of CTI Engineering International Co., Ltd.

The meeting began with Deputy Director MORI Noriyuki explaining ICHARM's activities, followed by presentations by Chief Researcher SHINYA Takafumi on risk management efforts in Japan's private sector," Senior Researcher MIYAMOTO Mamoru on the Online Synthesis System for Sustainability and Resilience (OSS-SR) project in Davao, the Philippines, and Researcher KAKINUMA Daiki on flood forecasting in small and medium rivers.

The Filipino participants found the presentations insightful since the Philippines's topography is somewhat similar to Japan's. They also realized the importance of close collaboration among other domestic agencies, for example, with the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), which manages rainfall data that DPWH needs for its research and other projects.

Discussion in session
議論の様子

DPWH is one of the main Filipino agencies participating in the Platform on Water and Disasters project led by the International Flood Initiative. ICHARM has been providing technical support for the project as the IFI Secretariat. Both sides agreed to strengthen their partnership for a successful project.

Participants in the DPWH-ICHARM meeting
参加者集合写真

後双方の連携を強化していきたいと考えています。

(Written by KURIBAYASHI Daisuke)

Typhoon Committee: The 56th Annual Session
台風委員会第 56 回総会への参加

The 56th annual session of the Typhoon Committee (TC) was held in Kuala Lumpur, Malaysia, from February 27 to March 1, 2024. The Typhoon Committee is an international assembly of 14 nations and territories in East and Southeast Asia that are often affected by typhoons. It includes four working groups: Meteorology (WGM), Hydrology (WGH), Disaster Risk Reduction (WGDRR), and Training and Research Coordination (TRCG), along with the Advisory Working Group (AWG), which oversees these four groups. Annual sessions are pivotal meetings where all stakeholders gather to make comprehensive decisions based on the activities of each working group.

Approximately 96 participants attended the meeting from 12 nations and territories (China, Hong Kong, Macao, Japan, Laos, Malaysia, Philippines, Republic of Korea, Thailand, Singapore, Vietnam, and the United States), the Economic and Social Commission for Asia and the Pacific (ESCAP), and the TC Secretariat. The event marked the first in-person annual session in the post-COVID era. The Japanese delegation consisted of 13 members, including representatives from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Japan Meteorological Agency (JMA), the Meteorological Research Institute (MRI), the Regional Specialized Meteorological Center (RSMC), the Asian Disaster Reduction Center (ADRC), the Infrastructure Development Institute (IDI), Tohoku University, the Typhoon Science and Technology Research Center(TRC), and two researchers from ICHARM: Senior Researcher MIYAMOTO Mamoru, currently serving as the chairperson of the TC's WGH and a member of the AWG, and Researcher KAKINUMA Daiki.

On the first day, the general meeting began with opening speeches, followed by the Dr. Roman L. KINTANAR Award ceremony for the past four years, from 2019 to 2023, during which in-person ceremonies were halted due to the pandemic. ICHARM received the 2020 award for a joint project with the Japan Aerospace Exploration Agency (JAXA) and the Infrastructure Development Institute (IDI) , for which Senior Researcher MIYAMOTO gave an acceptance speech on behalf of the project team. On the occasion of receiving the award, the report by Executive Director KOIKE was posted in the ICHARM Newsletter Vol. 60;

https://www.pwri.go.jp/icharm/publication/newsletter/pdf/icharm_newsletter_issue60.pdf

The meeting also included technical presentations from various countries, and those from Japan attracted significant interest.

2024 年 2 月 27 日から 3 月 1 日にかけて、台風委員会（ＴＣ）の第 56 回総会が、マレーシア・クアラルンプールで開催されました。台風委員会は、東、東南アジアで台風の影響を受ける 14 の国と地域がメンバーの国際会議であり、台風委員会の中には 4 つの作業部会（気象（WGM）、水文（WGH）、災害リスク削減（WGDRR）、研修・研究調整（TRCG））とそれらを司る運営諮問部会（AWG）によって構成されています。本総会はすべての関係者が集結し、各部会の活動に基づく委員会全体の意思決定を行う最も重要な会議です。

本会議は 14 のメンバー国・地域のうち 12（中国、香港、マカオ、日本、ラオス、マレーシア、フィリピン、韓国、タイ、シンガポール、ベトナム、アメリカ）と ESCAP（Economic and Social Commission for Asia and the Pacific (国連アジア太平洋経済社会委員会))、台風委員会事務局から総勢約 96 人が、コロナ後初めての対面での総会に参加しました。日本からは、国土交通省水管理・国土保全局、気象庁、気象研究所、熱帯低気圧地区特別気象センター、アジア防災センター、国際建設技術協会、東北大学、台風科学技術研究センター、および ICHARM から宮本守主任研究員と柿沼太貴研究員の総勢 13 名が参加しました。なお、宮本守主任研究員は 2021 年 2 月から水文部会議長（2 期目）及び運営諮問部会メンバーを務めています。

総会の初日には、開会の挨拶に続き、2019 年から 2023 年まで対面形式で実施できなかった Dr. Roman L. KINTANAR 賞の授賞式が行われました。ICHARM は国立研究開発法人 宇宙航空研究開発機構（JAXA）及び一般社団法人国際建設技術協会（IDI）の共同プロジェクトで 2020 年の受

賞を果たし、代表として宮本主任研究員が賞を受け取り、受賞スピーチを行いました。なお、ICHARM ニュース レ タ ー Vol. 60 に は、ICHARM 小池センター長から Dr. Roman L. KINTANAR 賞の受賞が報告されています。
https://www.pwri.go.jp/icharm/publication/newsletter/pdf/icharm_newsletter_issue60.pdf

また、この日は日本を含む各国からの技術発表があり、日本からの発表は特に参加者から高い関心を集めました。

総会 2 日目には、4 つの部会からの年次計画（AOPs）のレビューと来年度の活動計画に関する報告が行われました。水文部会からは、宮本議長が報告しました。また、台風対応の標準業務手順（SSOP- Ⅲ）の強化に関する議論も行われ、日本が主導する人命救助のための洪水リスク監視に焦点が当てられました。この議論は、国交省が推進する水災害分野の国際標準形成に向けた取り組みをさらに推進するものでした。

総会 3 日目は、台風委員会事務局から予算収支に関する報告があり、その後、甚大な被害をもたらした台風の名称を決定するための議論が行われました。（あまり知られていませんが、台風の名称は台風委員会で決定され、甚大な被害をもたらした台風の名前は再度使用されず、新たな候補を設定・承認することとしています。）

最終日には、来年度の統合部会や総会の日時、場所についての議論が行われ、総会は成功裏に閉幕しました。第 56 回台風委員会総会への参加は、日本、ICHARM、土木研究所の国際的なプレゼンスを示し、地域のレジリエンス向上に寄与する貴重な機会でした。対面での密接な交流を通じて、各国との深い理解と協力を築くと共に、国内の機関間での技術共有による連携強化が実現しました。今後も ICHARM は、台風委員会などの国際的枠組みを通して、水災害リスク軽減やレジリエンス強化のための地域間協力を引き続きリードしていく所存です。

On the second day, the four working groups reported the review results of their annual operation plans (AOPs) and presented plans for 2025. Chairperson MIYAMOTO delivered the review and plans of WGH. Discussions were particularly focused on enhancing the Synergized Standard Operating Procedures for Typhoon Response (SSOP-III), with an emphasis on flood risk monitoring for lifesaving, the theme led by Japan. The discussions further advanced Japan's efforts toward establishing international standards in the field of water disaster management.

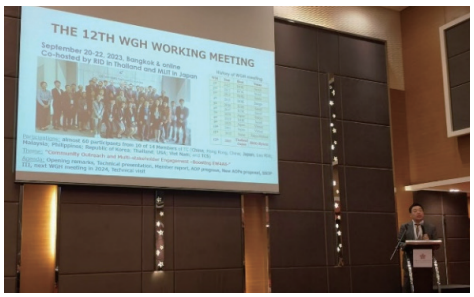
The third day featured financial reports from the TC Secretariat and discussions on deciding the names for typhoons that caused significant damage. (Though not widely known, the TC is responsible for naming typhoons; however, the names given to especially destructive typhoons are never reused.)

The final day addressed the schedule and location for next year's joint working groups and annual session, and TC's important yearly event ended successfully. Participation in the 56th annual session was an excellent opportunity for Japan, ICHARM, and the Public Works Research Institute to demonstrate their international presence and further contribute to the improvement of regional resilience. The much-awaited face-to-face occasion helped facilitate closer exchanges among the participants, leading to a deeper understanding and cooperation between various countries. In addition, it even helped enhance collaboration among domestic institutions while sharing technical and other issues. ICHARM will continually dedicate itself to leading regional cooperation for water disaster risk reduction and resilience enhancement through TC and other international frameworks.

Participants in TC's 56th session
台風委員会（TC）第 56 回総会集合写真

Senior Researcher MIYAMOTO delivering an award-winning speech
宮本主任研究員の受賞スピーチ

The general meeting in session
会議風景



Chairperson MIYAMOTO reporting WGH activities
宮本議長による WGH の活動報告

Japan's representatives to TC's annual session
日本からの参加者

(Written by KAKINUMA Daiki)

Research

Introduction of ICHARM research projects / 研究紹介

ICHARM sets three principal areas of activity: research, capacity building, and information network. It plans and implements projects in these areas in order to fulfill its mission, always keeping in mind "localism", a principle with which we respect local diversity of natural, social and cultural conditions, being sensitive to local needs, priorities, development stage, etc., within the context of global and regional experiences and trends of disasters.

At present, ICHARM conducts innovative research in the following five major areas:

(1) Data collection, storage, sharing, and statistics on water related disasters
(2) Risk assessment on water related disasters
(3) Monitoring and prediction of changes in water related disaster risk
(4) Proposal, evaluation and application of policy ideas for water related disaster risk reduction
(5) Support in constructing the applicability of water-related disaster management

This issue introduces a researcher as listed below:

Ralph Allen Acierto, Research Specialist

Estimating changes in probable maximum precipitation under global warming using DAD analysis

ICHARMは、その使命を果たすため、世界及び地域での災害の傾向及び経験と災害対応に関する地域のニーズ、重要課題、開発段階等を踏まえつつ、自然、社会及び文化といった地域の多様性を考慮する原則というローカリズムを念頭に、研究、能力育成及び情報ネットワーク構築の3本柱を有機的に連携させて、現地実践活動を実施しています。

そのうち、研究としては

(1) 水災害データの収集、保存、共有、統計化
(2) 水災害リスクのアセスメント
(3) 水災害リスクの変化のモニタリングと予測
(4) 水災害リスク軽減の政策事例の提示、評価と適用支援
(5) 防災・減災の実践力の向上支援

の5つの柱のもと、革新的な研究活動を行っています。

本号では、(2)に関する取組例としてラルフ　アレン　アチエルト専門研究員より「Estimating changes in probable maximum precipitation under global warming using DAD analysis」を紹介します。

Estimating changes in probable maximum precipitation under global warming using DAD analysis

Ralph Allen Acierto, Research Specialist
ラルフ　アレン　アチエルト　専門研究員

Catastrophic floods due to destructive typhoons and active seasonal fronts have been historically central to Japan's flood control planning and policy. Furthermore, in response to climate change and increasing vulnerability due to social changes, policies related to flood and disaster management have been revised successively, eventually leading to the establishment of "River Basin Disaster Resilience and Sustainability by All" in 2020, as reported by a study on water policy in Japan (Koike, 2021).

According to the report, the development of a new national policy on disaster management in 2015 led to a critical revision of the Flood Prevention Act in May 2015 to focus on saving lives and preventing catastrophic socio-economic damage due to large-scale floods. The government adopted an estimation of the probable largest-scale hazard caused by the largest historically observed rainfall for each of the country's 15 defined climate zones. The largest historically-observed rainfall was calculated from the maximum Depth-Area-Duration (DAD) curves of observed rainfall and used to construct flood hazard maps, each of which defines the largest-scale hazard in an area. At that time, there was no consensus yet on how to incorporate the impact of climate change into flood hazard maps. With successive heavy rainfall events that brought significant damage (e.g., September 2015 in Kanto and Tohoku region, August 2016 in Hokkaido and Tohoku regions), it became increasingly obvious that the flood hazard maps based on maximum DADs needed an urgent update to include climate change impacts; the July 2018 flood disaster in western Japan was the first heavy rainfall event in Japan that the Japan Meteorological Agency (JMA) declared as influenced by climate change.

Multiple assessments and studies on climate change have since been done using the "database for policy decision-making for future climate change (d4PDF)," developed by the Program for Risk Information on Climate Change (SOUSEI) in December 2015 (Mori et al., 2021). The database includes climate projections (global 60-km resolution, Japan-wide 20-km resolution) from high-resolution atmospheric model outputs to aid in generating actionable data for estimating climate change impacts in Japan. The projections were further refined to a 5-km resolution nationwide and released in December 2023 to get a better estimate of extreme rainfall and better suitability for hydrological applications.

Updating the flood hazard maps that were based on maximum DADs is critical work in water-related disaster management in Japan. Thus, we utilize the 5-km resolution d4PDF to estimate probable maximum precipitation from

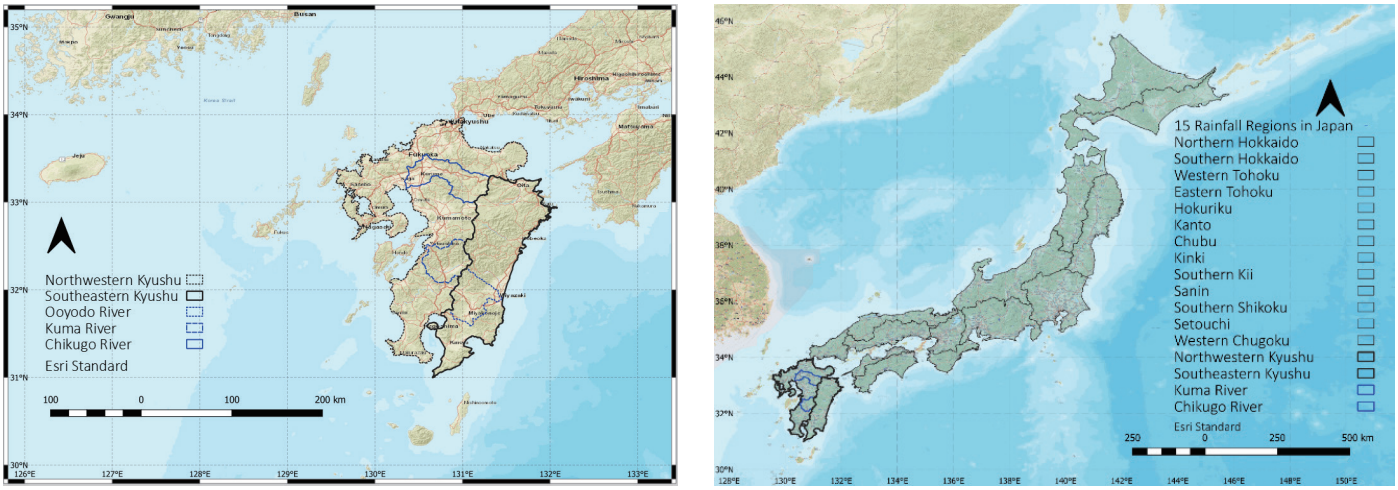
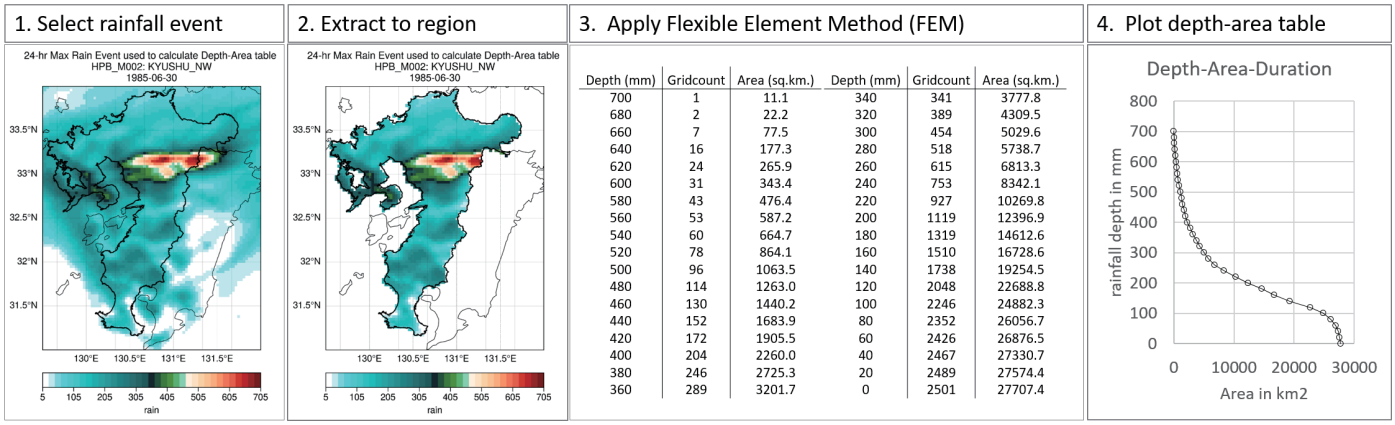


Figure 1. Fifteen homogeneous rainfall regions defined using cluster analysis of AMEDAS rainfall dataset by MLIT and showing Kyushu as initial target study area



Depth (mm)	Gridcount	Area (sq.km.)	Depth (mm)	Gridcount	Area (sq.km.)
700	1	11.1	340	341	3777.8
680	2	22.2	320	389	4309.5
660	7	77.5	300	454	5029.6
640	16	177.3	280	518	5738.7
620	24	265.9	260	615	6813.3
600	31	343.4	240	753	8342.1
580	43	476.4	220	927	10269.8
560	53	587.2	200	1119	12396.9
540	60	664.7	180	1319	14612.6
520	78	864.1	160	1510	16728.6
500	96	1063.5	140	1738	19254.5
480	114	1263.0	120	2048	22688.8
460	130	1440.2	100	2246	24882.3
440	152	1683.9	80	2352	26056.7
420	172	1905.5	60	2426	26876.5
400	204	2260.0	40	2467	27330.7
380	246	2725.3	20	2489	27574.4
360	289	3201.7	0	2501	27707.4

Figure 2. Example of calculation of depth-area from a 24-hour heavy rainfall event from the HPB_m002 ensemble in the present climate period for Kyushu NW. The same steps are done for each selected event for multiple durations (1-hr to 72-hr) for each ensemble member in both climate periods.

derived DAD curves and quantify the impact of climate change using change factors by comparing future climate-derived DADs with present climate-derived DADs. The main objective of this study is to quantify the impact of climate change on the probable maximum precipitation for two sub-regions shown in Figure 1, Northwestern Kyushu and Southeastern Kyushu. This study area is set for an initial application to develop a new method and will be expanded to include the remaining sub-regions shown in the left panel of Figure 1.

The maximum DAD, which is a probable maximum precipitation estimate based on DAD, is a composite of all DAD from selected heavy rainfall events. Figure 2 shows the DAD method for transforming gridded rainfall data into depth-area-duration curves for a single rainfall event. The Flexible Element Method (FEM), seen in step 3 of Figure 2, is based on the World Meteorological Organization guideline (WMO, 1969) for creating DAD curves. The same method is used for selected rainfall of different durations (1-, 2-, 3-, 6-, 12-, 24-, 48-, and 72-hour) to produce respective maximum DADs for each region used in the study.

This research utilizes a 5-km hourly rainfall dataset of 60 years derived from 12 ensemble members in each climate period: a set of 720-year-period hourly rainfall from 12 ensembles in the present climate period (1951 to 2010) and a set of 720-year-period hourly rainfall from 12 ensembles in the future +4K climate period (2050 to 2110). Due to the large amount of data to be processed, automated data formatting and pre-processing are essential to this work.

The research aims to contribute to updating disaster risk maps for the largest-scale flood hazards, which are prepared for supporting life-saving efforts and mitigating catastrophic socio-economic damage caused by large-scale floods in Japan. The initial application to Kyushu is to develop a framework and method for using maximum DAD and large ensemble datasets to estimate the impact of climate change on probable maximum precipitation in Japan. The developed framework should be applicable to similar assessments globally. This research is currently underway and expected to be finished in the next fiscal year.

Koike, T. (2021). Evolution of Japan's flood control planning and policy in response to climate change risks and social changes. *Water Policy*, 23(S1), 77–84. https://doi.org/10.2166/wp.2021.287

Mori, N., Takemi, T., Tachikawa, Y., Tatano, H., Shimura, T., Tanaka, T., Fujimi, T., Osakada, Y., Webb, A., & Nakakita, E. (2021). Recent nationwide climate change impact assessments of natural hazards in Japan and East Asia. *Weather and Climate Extremes*, 32, 100309. https://doi.org/10.1016/j.wace.2021.100309

WMO. (1969). Manual for depth-area duration analysis of storm precipitation (WMO No. 237 TP. 129). *World Meteorological Organization Library*. https://library.wmo.int/idurl/4/41892

Report on real-time rainfall observation and data transfer system maintenance for flood monitoring, forecasting, and early-warning activities in Sri Lanka supported by IFI, DIAS and JAXA
スリランカにおける洪水監視・予測・早期警報のためのリアルタイム雨量観測データ転送システムメンテナンス活動報告（IFI・DIAS・JAXA プロジェクト）

Senior Researcher Abdul Wahid Mohamed Rasmy and Research Specialist TAMAKAWA Katsunori visited Sri Lanka on March 7-13, 2024, to maintain the systems for real-time rainfall observation and data transfer. The system installation and maintenance, as well as data transfer, have been conducted under a joint research program between Sri Lanka's Irrigation Department and ICHARM, part of the JAXA GPM project, and a water-related project using the Data Integration and Analysis System (DIAS), funded by Japan's Ministry of Education, Culture, Sports, Science and Technology. The systems are currently in operation at six stations in the country's western and eastern regions; they were initially installed at three stations in February 2015 and later at three other stations, each of them sending hourly rainfall data in real time to DIAS, operated by the University of Tokyo in Japan.

ICHARM in collaboration with DIAS, has developed an advanced flood monitoring, forecasting, and early warning system for the Kalu River basin, which is designed to use observed data from these six ground gauges, GSMaP real-time data (GSMaP_NOW), a hydrological model (WEB-RRI) outputs, and 39-hour quantitative rainfall forecasts, and put it to test operation. DIAS hosts this system to demonstrate the potential of the latest advances in science and technology in the management and mitigation of water-related disasters in Sri Lanka under the framework of the IFI Platform on Water Resilience and Disasters.

JAXA GPM is a project to provide high-frequency, high-accuracy global precipitation measurements using data from multiple satellites.

https://www.eorc.jaxa.jp/GPM/

ICHARM and local staff maintaining real-time rainfall observation and data transfer systems at Kalawana, Ratnapura , Kalutara, and Ruham
Kalawana、Ratnapura、Kalutara、Ruham における
リアルタイム降雨観測およびデータ転送システムの維持管理

(Written by TAMAKAWA Katsunori and Abdul Wahid Mohamed RASMY)

Rasmy 主任研究員と玉川専門研究員はリアルタイム雨量観測データ転送システムのメンテナンスを目的に 2024 年 3 月 7 日から 3 月 13 日にスリランカを訪問しました。2015 年 2 月に 3 台が設置され、その後、追加での設置やメンテナンスを継続し、現在スリランカ南東部や東部地域の 6 地点において稼働しています。各地点から 1 時間ごとにリアルタイムに降雨データが、東京大学が運用しているデータ統合・解析システム (DIAS) に転送されています。なお、これら機器の設置・保守や情報の提供は、宇宙航空研究開発機構 (JAXA) の全球降水観測計画 (GPM) 、文部科学省のデータ統合・解析システム (DIAS) プロジェクトの枠組みの下で、同国灌漑局と ICHARM における共同研究で実施されています。

ICHARM は DIAS と 協 働 し、これらの地上観測雨量計からのデータ、GSMaP Realtime(GSMaP_NOW) データ、水文モデル (WEB-RRI) による解析結果、39 時間先の数値気象予測を利用して、Kalu 川流域を対象とした洪水監視・予測・早期警報のための先進的なシステムを開発しました。現在、DIAS 上で試験的に運用し、国家レベルの枠組み（IFI（国際洪水イニシアティブ）や IFI が推進する水のレジリエンスと災害に関するプラットフォーム）のもとで最新の科学技術の成果をスリランカの水に関わる災害管理・軽減のためにどう活用するか実証しています。

参考：JAXA GPM は、複数の衛星データを利用して地球全体にわたる高頻度・高精度の降水観測をするプロジェクトです。
https://www.eorc.jaxa.jp/GPM/

HyDEPP-SATREPS Updates: Field survey gear delivered to the Philippines
HyDEPP-SATREPS プロジェクト活動報告 : 現地観測機材をフィリピンに供与

ICHARM has been involved in a project named the Hybrid Water-Related Disaster Risk Assessment Technology for Sustainable Local Economic Development Policy under Climate Change in the Republic of the Philippines (HyDEPP-SATREPS). On March 12-14, 2024, Researcher NAITO Kensuke and Research Assistant Serrano Jonathan Suba, together with Project Leader Professor OHARA Miho and Dr. NAGUMO Naoko of the University of Tokyo, traveled to Los Baños, the Philippines, to deliver field survey gear, such as a turbidity sensor, velocity sensor, plant canopy

ICHARM が参画する「気候変動下での持続的な地域経済発展への政策立案のためのハイブリッド型水災害リスク評価の活用（略称：HyDEPP-SATREPS）」プロジェクトの下、内藤健介研究員とジョナサン・セラーノ・スバ リサーチアシスタントが、プロジェクトリーダーである東京大学の大原美保教授と同大学南雲直子博士

と共に 2024 年 3 月 12 日～ 14 日にフィリピンのロスバニョスに渡航しました。今回の渡航では、濁度計、流速計、植生キャノピー分析計、土砂採取器等の観測機材を供与しました。

3 月 13 日にはフィリピン側プロジェクトカウンターパートであるフィリピン大学ロスバニョス校（UPLB）にてセミナーを実施し、機材使用方法のレクチャーおよび今後の現地観測の戦略とスケジュールについての議論を行いました。セミナーではフィリピン側プロジェクトメンバー 33 名（UPLB 及びフィリピン大学ディリマン校）、日本側メンバー 4 名、及び JICA 等から 3 名の参加者が、2024 年 5 月に流量観測研修をフィリピンにて実施することを合意しました。

観測機材が供与されたことを受け、現地観測を加速化し、プロジェクトゴール達成に向け活動を活性化してまいります。

analyzer, and bed sediment sampler, to the local project team.

On March 13, a seminar was organized at the University of the Philippines Los Baños (UPLB), which is the Philippines-side project counterpart, to lecture the usage of the provided gear and discuss the field survey strategy and schedule. The seminar was attended by 33 Filipino project members from UPLB and the University of the Philippines Diliman, 4 Japanese members, and 3 JICA personnel. In addition, they agreed that a series of training on river flow monitoring would be conducted in the Philippines in May 2024.

With the monitoring gear delivered, the project members are determined to accelerate the activities to achieve project goals.

Project members and the delivered monitoring gear
プロジェクトメンバーと供与された観測機材

Discussion on future field survey
今後の現地観測に関する議論の様子

Lecture on the usage of a turbidity sensor
濁度計使用方法の説明の様子

(Written by NAITO Kensuke)

Training & Education

https://facebook.com/icharmtrainingcourse/

Educational program updates
教育・研修活動報告

ICHARM では、2007 年以降、(独) 国際協力機構 (JICA) 及び政策研究大学院大学 (GRIPS) と連携して、主に外国人行政職員を対象として、約 1 年間で学位を取得できる修士課程「防災政策プログラム水災害リスクマネジメントコース」(JICA 研修「洪水防災」) を実施しています。例年、10 月から翌 年 3 月までの 6 カ月は主に講義や演習が行われ、4 月から 8 月にかけて学生は論文研究に取り組みます。ここでは 1 月から 3 月に実施した主な活動を報告します。

2月7日　気象庁本庁視察

学生は、牛山主任研究員に引率され、気象庁本庁を視察しました。座学では、気象庁が発表している様々な情報のうち、防災気象情報の提供体制等を解説いただきました。特に、降水量だけでなく水文モデルを使って全国的に危険度を示した土壌雨量指数、流域雨量指数、表面雨量指数などの情報については、学生から多くの質問が寄せられ関心が高かったようです。学生は、その後気象予報

Since 2007, ICHARM has collaborated with the Japan International Cooperation Agency (JICA) and the National Graduate Institute for Policy Studies (GRIPS) to offer a master's program known as the "Water-related Disaster Management Course, Disaster Management Policy Program (JICA Knowledge CO-Creation Program on "Flood Disaster Risk Reduction)." This program is designed mainly for foreign government officers to obtain a master's degree in one year. The students study theories and practices in the first half of the program, from October to March, and work on their theses in the second half, from April to August. The curriculum includes several study trips across Japan, which are an essential part of the students' professional training to sharpen their expertise by learning about Japan's disaster management practices from different perspectives. The following reports a two-day study tour in February 2024.

February 7: Japan Meteorological Agency

The students visited the Japan Meteorological Agency (JMA), accompanied by Senior Researcher USHIYAMA Tomoki. They first received a lecture about the agency's information services. Although the agency provides public services handling various types of information, the lecture was mainly focused on disaster and meteorological information services. The students showed particularly strong interest in and asked many questions about nationwide risk information, such as soil water

index, basin rainfall index, and surface runoff index, which are produced based on not only rainfall information, but also calculations from hydrological models. They also toured around the agency, including the weather forecasting office, which operates 24 hours, seven days a week.

Students viewing the weather forecasting office in action
気象庁の予報現業室を視察する学生

February 8: Tsurumi River Multipurpose Reservoir, Kawai Water Plant, and Miyagase Dam

As planned by Research Specialist HARADA Daisuke and GRIPS Professor CHIBANA Takeyoshi, the students participated in a joint study tour to the Tsurumi River Multipurpose Reservoir, the Kawai Water Purification Plant, and Miyagase Dam, constructed in the Sagami River system.

The Tsurumi River Multipurpose Reservoir was built as a retarding basin to reduce increased flood risk due to the rapid urbanization of the basin. The reservoir area, remaining dry when not in use, contains a large park with an international sports stadium and tennis courts. Since the students' home countries have also faced rapid population growth and urbanization in recent years, the reservoir seemed an excellent example of possible flood control options.

Students posing for photos with the International Stadium Yokohama seen far behind them, where World Cup rugby games took place in 2019
2019 ラグビー W 杯決勝スタジアムをバックに

The students then moved to the Kawai Water Purification Plant, which supplies water to Midori, Seya, and some other northwestern wards of Yokohama City. Plant staff explained that the water supply capacity had doubled while using only one-third of the land space required previously due to the switch from sand-based to ceramic-based purification methods. After the water plant, they visited Miyagase Dam, multi-purposed dam.

At Kawai Water Plant
川井浄水場にて

At Miyagase Dam
宮ケ瀬ダムにて

March 5: Geospatial Information Authority of Japan (GSI)

On March 5, 2024, the students of the ICHARM master's program visited the Geospatial Information Authority of Japan (GSI), accompanied by Executive Director KOIKE Toshio.

In the first half of the visit, the students listened to GSI's staff explain their activities related to disaster prevention in detail with specific examples of disasters caused by different hazards, such as torrential rains and earthquakes, including the Noto Peninsula earthquake this past January.

On the spherical model of the Japanese archipelago
日本列島球体模型の上で

In the latter half, the students were taken to the Science Museum of Map and Survey, part of GSI, where they received explanations about the spherical model of the

を実際に行っている現業室も見学しました。

2月8日　GRIPS 知花教授との合同視察

学生は、原田専門研究員と GRIPS 知花武佳教授との企画により、GRIPS の学生と合同で、鶴見川多目的遊水地、川井浄水場及びその水源でもある宮ケ瀬ダムを視察しました。

流域の急激な都市化に対応するために設置され、国際サッカースタジアムやテニスコート等を内包する鶴見川多目的遊水地は、近年人口増加、都市化が著しい学生の各母国の洪水対策に大きな参考になった模様でした。

学生は、横浜市の北西の区（緑区や瀬谷区等）に水道水を供給している川井浄水場を視察しました。ここでは浄化方法を、砂によるろ過方法から、セラミック素材による膜ろ過装置に変更することによって、以前の約 1/3 の敷地で 2 倍の水道水を供給できるようになったとのことでした。

また、その後多目的ダムである宮ケ瀬ダムも見学しました。

3月5日　国土地理院

小池センター長の引率により、3月5日に国土地理院を視察しました。

前半は、国土地理院の災害対応について、講義を聴講しました。今年の1月に起こった令和 6 年能登半島地震を含む地震や、豪雨などの災害の具体例に触れながら、国土地理院の活動について詳しい解説を受けました。

後半は地図と測量の科学館において、日本列島球体模型や測量用航空機「くにかぜ」などについて、丁寧に説明いただいた後、専用のメガネをかけることにより、日本列島が立体的に見える日本列島空中散歩マップを見学し、日本列島の地形について、理解を深めました。

3 月 6 日 ～ 8 日 Project Cycle Management 研修

3月6日から8日の3日間にわたり、学生は専門のモデレーターのもとで、プロジェクト運営管理手法として JICA が導入を奨励している「Project Cycle Management」（PCM）のワークショップに参加しました。この手法は、あるプロジェクトを手掛ける際に適用される計画・実行・評価のサイクルの管理に役立つ実用的かつ論理的なアプローチです。学生は二班に分かれ、それぞれの自国での状況等を背景に、これまで日本で学んだ知識を活用して、水災害リスク軽減のためのプロジェクトについて真剣かつ白熱した議論がなされました。

Japanese archipelago and "Kunikaze," a survey airplane. They also had the opportunity to see an aerial walking map of the Japanese archipelago. The map allowed them to see the land of Japan in three dimensions by wearing special glasses, helping them deepen their understanding of its topography.

March 6 - 8: Project Cycle Management (PCM) Training

The students studying in the master's program at ICHARM participated in the PCM training, which was conducted under the supervision of a professional moderator for three days, from March 6 to 8. PCM is a practical and logical approach that JICA has been promoting its introduction to help manage the cycle of project planning, implementation, and evaluation. The students, divided into two groups, had a heated discussion about a potential project to reduce water disaster risk, using the knowledge they had learned in Japan and considering conditions unique to their respective countries.

Group discussion
グループディスカッション

Class discussion
クラスディスカッション

(Written by FUJIKANE Masakazu and ONARI Rikako)

ICHARM held a follow-up seminar for former and current students of its graduate programs
修士・博士課程卒業生・在校生向けのフォローアップセミナーを開催

ICHARM は、政策研究大学院大学（GRIPS）および（独）国際協力機構（JICA）と連携して、修士課程「防災政策プログラム水災害リスクマネジメントコース」および博士課程「防災学プログラム」を実施しており、これまでに計 199 名の卒業生を輩出しています。これらの卒業生へのフォローアップ活動として、2007 年から年 1 回セミナーを実施しています。

第 16 回目となる今回は、在校生のキャリア形成支援も目的として 2 月 13 日にオンライン形式で開催し、20 か国 41 名の卒業生、12 か国 23 名の在校生が参加しました。

宮本主任研究員の総合司会のもと、冒頭で来賓の JICA 筑波の高橋亮所長、GRIPS の大田弘子学長（ビデオメッセージ）からご挨拶を頂くとともに、主催者を代表して開会挨拶を行った土木研究所の藤田光一理事長から、能登半島地震への土木研究所の対応を踏まえて「全ての災害には新しい側面があり、災害から教訓を学ぶことでより賢く次の災害に対処することができる。水災害についても同様である。このセミナーで新たな有益な刺激を得ていただきたい」とのメッセージが参加者に贈られました。

続いてユネスコのアブ・アマニ水科学部長より「Intergovernmental Hydrological Programme (IHP IX 2022-2029 （ユネスコ政府間水文学計画　第 9 期戦略計画 2022-2029）): Science for a Water Secure World in a Changing Environment」

ICHARM, in collaboration with the Graduate Institute of Policy Studies (GRIPS) and the Japan International Cooperation Agency (JICA), offers a master's program, "Water-related Disaster Management Course of Disaster Management Policy Program," and a doctoral program, "Disaster Management Program." These programs have produced a total of 199 graduates since their commencement. As a follow-up activity for these graduates, ICHARM has been holding the Follow-up Seminar annually since 2007.

The 16th seminar was held online on February 13, 2024, with an attendance of 41 graduates from 20 countries and 23 students from 12 countries currently studying in the master's and doctoral programs. This year's event was planned with the additional aim of supporting the current students in gaining perspectives on their future careers.

The seminar, moderated by Senior Researcher MIYAMOTO Mamoru, began with greetings from JICA Tsukuba Director TAKAHASHI Makoto and a video message by GRIPS President OTA Hiroko. On behalf of the organizers, President FUJITA Koichi of the Public Works Research Institute (PWRI) also made an opening speech. He first mentioned how PWRI had been engaged in the disaster response efforts after the Noto Peninsula earthquake and then told the participants that: "Every disaster has a new aspect, and by learning lessons from disasters, we can cope more wisely with future disasters, including water-related disasters." He also hoped that the participants would gain new and beneficial insights from the seminar.

Dr. Abou Amani, the director of the Division of Water Sciences at UNESCO, followed, delivering a keynote speech titled "Intergovernmental Hydrological Programme (IHP IX 2022-2029): Science for a Water Secure World in a Changing Environment." He first stressed that water should be regarded as the core of SDGs and recognized as playing a liaison role in connecting international commitments such as SDGs and the Paris Agreement. He then explained that the UNESCO IHP, which will celebrate its 50th anniversary in 2025, is currently working on five priority issues and 23 cross-cutting issues under its 9th strategic plan. He also informed the audience of

a UNESCO-led project to install early warning systems in Africa to reduce flood and drought damage.

After the speeches, the participants were divided into four groups with a different focus on disaster risk reduction, sediment, hydrology, or meteorology and engaged in discussions about the ICHARM Alumni MEta Knowledge Database (iAME) and the ICHARM Alumni Webinar under the facilitators selected in advance from the graduates.

Afterwards, the participants gathered again for a parallel session where the current students asked questions to the former students. The questions included, for example, how their connection with ICHARM has influenced their work after graduation.

Also, in the parallel session, the facilitators of each group reported the outcome of the group session. Then, additional discussion continued about iAME, including what data to store and who should be allowed access to the data. The participants also talked about the ICHARM Alumni webinar, such as frequency and method.

Finally, Executive Director KOIKE Toshio wrapped up the seminar by expressing his gratitude to the participants for their enthusiastic discussions. He also shared his intention to launch theme-specific webinars as a new initiative.

ICHARM hopes that this seminar has further strengthened our ties with the former and current students, thereby contributing to closer cooperation in future activities.

Voices from participants

Participant A (current ICHARM student)
The seminar was a great initiative in which gathered all the ICHARM past graduates and current students to exchange and share their opinions and ideas for improvement of the ICHARM in term of networking, service delivery, and training the next leaders in water sector.

Participant B (ICHARM graduates)
I met many of our ICHARM Alumni after a long time over an online platform. It is good to here that a platform to communicate each other will be established soon. It will be a great opportunity to learn the research update in water sector.

Participant C (ICHARM graduates)
The iAME platform holds immense potential in providing valuable materials and insights to alumni for tackling local issues effectively. From what I gathered during the session, having access to a repository of resources tailored to specific challenges can greatly enhance problem-solving capabilities within the alumni network.

(From left) JICA Tsukuba Director TAKAHASHI, GRIPS President OTA, and PWRI President FUJITA
来賓挨拶を頂いた高橋 JICA 筑波所長、大田 GRIPS 学長、開会挨拶を行う藤田理事長


(From left) UNESCO Water Sciences Director Amani and ICHARM Executive Director KOIKE
基調講演を行うアマニ部長、閉会挨拶を行う小池センター長

と題した基調講演をいただきました。アマニ部長は、水は SDGs の中心に置かれるべきであり、SDGs やパリ協定などの国際約束をつなぐ役割を有しているとの見解を述べたうえで、来年 50 周年を迎える IHP が現在第 9 期戦略のもとで 5 つの優先課題と 23 つの横断的課題に取り組んでいること、またユネスコがアフリカで洪水・干ばつの早期警報システム整備を進めていることを紹介しました。

次に、参加者は 4 つのグループ（災害リスク軽減、土砂、水文、気象）に分かれ、卒業生の中から事前に指名されたファシリテーターのもとで Icharm Alumni MEta Knowledge Database (iAME)（ICHARM 同窓会メタ知識（知識のための知識）データベース：発音「あめ」）、ICHARM Alumni webinar（ICHARM 同窓会ウェビナー）についてディスカッションを行いました。

この後、参加者は再び一同に会して、在校生が卒業生に質問するセッションに参加しました。在校生からは、卒業後に ICHARM とのつながりが仕事にどのように影響したか、といった具体的な質問がありました。

続いて、各グループのディスカッションの結果がファシリテーターから報告され、iAME に格納するデータの種類や利用主体、ICHARM Alumni webinar の開催頻度・方式を全員で議論しました。

最後に閉会挨拶を行った ICHARM の小池俊雄センター長から、参加者による熱意ある議論への感謝の言葉と、新たな取組としてテーマ別ウェビナーを立ち上げたいとの意向が示されました。

本セミナーによって、ICHARM、卒業生、および在校生のそれぞれの繋がりが一層深まるとともに、今後のそれぞれの活動に大きく資することが期待されます。

【参加者の声】

参加者 A (ICHARM 在学生)
このセミナーは、ICHARM の過去の卒業生と在学生全員が集まり、ネットワーキング、サービス提供、水分野の次期リーダーの育成という観点から ICHARM の発展に向けた意見やアイデアを交換し共有する素晴らしい取り組みでした。

参加者 B (ICHARM 卒業生)
オンラインプラットフォームを通じて、久しぶりに多くの ICHARM 卒業生に会えました。 相互コミュニケーションのプラットフォームがすぐに確立されることは、ここにとって良いことです。 水分野における最新の研究を学ぶ絶好の機会となるでしょう。

参加者 C (ICHARM 卒業生)

iAME は、地域の問題に効果的に取り組むための貴重な資料と洞察を卒業生に提供するという計り知れない可能性を秘めています。セッション中に私が集めた情報によると、特定の課題に合わせたリソースのリポジトリにアクセスできると、同窓会ネットワーク内の問題解決能力が大幅に向上します。

Participants in the seminar
集合写真

(Written by KURIBAYASHI Daisuke and TADA Tomokazu)

Action Reports from ICHARM Graduates

ICHARMでは、政策研究大学院大学（GRIPS）、（独）国際協力機構（JICA）と連携して、世界各国から洪水対策の行政官を対象として、1年間の修士課程「防災政策プログラム　水災害リスクマネジメントコース」を実施するとともに、3年間の博士課程「防災学プログラム」を実施しています。これまで180名を超える実務者・研究者の方々が各課程を修了し、帰国後、本研修で習得された知識や経験を生かして、様々な分野において活躍されています。

ICHARMニュースレターでは、こうした卒業生の方々からご活躍の様子を寄稿していただいています。本号では2021-2022年（15期）修士課程卒業生であるErwin Rafael De Ocampo Cabral氏（フィリピン）の寄稿文をご紹介します。

ICHARM provides graduate-level educational programs for foreign government officers in charge of flood risk management in collaboration with GRIPS and JICA: a one-year master's program, "Water-related Risk Management Course of Disaster Management Policy Program," and a three-year doctoral program, "Disaster Management Program."

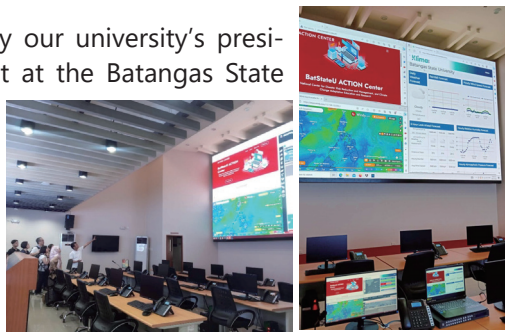
Since their launches, over 180 practitioners and researchers have completed either of the programs. They have been practicing knowledge and experience acquired through the training in various fields of work after returning to their home countries. This section is devoted to such graduates sharing information about their current assignments and projects with the readers around the globe. Erwin Rafael De Ocampo Cabral (The Philippines), who graduated from the master's program in 2022, has kindly contributed the following article to this issue.

Erwin Rafael De Ocampo Cabral

Assistant Professor I, Department of Civil Engineering, College of Engineering, Batangas State University The National Engineering University
Faculty with Special Administrative Assignment, BatStateU ACTION Center
Head, GIS Applications Development Center

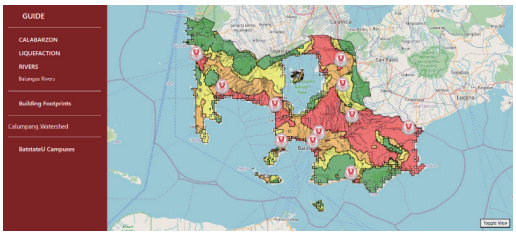
I am truly grateful to the Japan International Cooperation Agency (JICA), the International Centre for Water Hazard and Risk Management (ICHARM) under the auspices of UNESCO, the Public Works Research Institute (PWRI), the National Graduate Institute for Policy Studies (GRIPS), and the people of Japan for giving me a once-in-a-lifetime opportunity to experience and enjoy Japanese culture and education. I am Erwin Rafael De Ocampo Cabral, a civil engineer in the Philippines and a graduate of the one-year master's program in the Water-related Risk Management Course of Disaster Management Policy Program in 2022.

Upon returning to the Philippines in September 2022, I was given by our university's president a designation of Faculty with Special Administrative Assignment at the Batangas State University Adaptive Capacity-building and Technology Innovation for Occupational Hazards and Natural Disasters (BatStateU ACTION) Center. Under Philippine Republic Act 11694, which declares the Batangas State University as the national engineering university and appropriates funds therefor, the BatStateU ACTION Center was endorsed by the Regional Development Council - CALABARZON as the national center for disaster risk reduction and management and climate change adaptation education and research. The BatStateU ACTION Center has three components: Disaster Preparedness and Response, Innovation in Advanced Computing Technologies for Disaster Risk Reduction (IACT4DRR), and Disaster Resiliency Education for Adaptation and Mitigation (DREAM) Academy. This center is directly under the Office of the University President and housed inside the BatStateU Command Center building.



The ACTION Center Dashboard in the Command Center Control Room

Concurrently, I was given another designation in January 2023 as the Head of the GIS Applications Development Center (GADC), one of the research centers under the Science, Technology, Engineering, and Environment Research (STEER) Hub of our university. As the center head, I provide Geographic Information System (GIS)-related assistance to researchers, faculty members, students, and other BatStateU stakeholders. The center offers different services, such as data acquisition using drone imagery, research and project consultation, GIS training, data processing, and map creation.



GUIDE Dashboard created by GADC for ACTION Center

One of the ongoing projects of the BatStateU ACTION Center and GADC that I'm currently involved in is the development of the GIS Utilization for Incidents, Disaster, and Emergencies (GUIDE) Dashboard. It is an application of GIS for disaster risk management that combines spatial data with information about potential hazards and vulnerabilities to support decision-making in disaster-prone areas. It uses geographical data, such as maps, satellite imagery, and aerial photographs, to analyze and visualize the risk and impact of disasters. The mapping and digitization of all eleven campuses of BatStateU to be included in the dashboard is currently ongoing. Furthermore, we are now gathering data to model the Calumpang Watershed, the largest watershed in the Province of Batangas. The flooding being experienced in Batangas City, where two campuses of BatStateU are located, is primarily caused by the overflowing of the Calumpang River. In the initial modeling of this river, I am utilizing the Rainfall-Runoff-Inundation (RRI) Model, which I learned from ICHARM. This GUIDE Dashboard is now in the development stage and is one of the dashboards to be utilized in the operations of the BatStateU ACTION Center.

Lecture Discussion Sessions with Engineering Students


Meeting with Incident Management Team


Survey and Data Gathering Activity

In December 2023, BatStateU, through the ACTION Center, received a special award for excellence in disaster risk reduction and management and humanitarian assistance in the 23rd Gawad Kalasag – CALABARZON. As the Regional Entry for the Special Awards – Higher Educational Institution, the university has served as a role model in mainstreaming the safety of its learners and is leading continuous research on disaster risk reduction.


23rd Gawad Kalasag - CALABARZON Awarding Ceremony

Regarding climate change adaptation efforts of our university, I am contributing in various ways. I am involved in the development of our university's Climate Change Action Plan (UCCAP). It is now in the revision and finalization stage. In 2023, I represented the university in a series of training sessions, workshops, and meetings with the Climate Resilient Cities (CRC) Project. This project aims to improve the Local Climate Change Action Plan (LCCAP) of Batangas City. During one of the meetings, local planners' capacity building in GIS was identified as an activity considered a nature-based solution. I saw this as an opportunity for BatStateU to contribute through a partnership with the CRC Project. On July 3-7, 2023, a 5-day basic GIS training was conducted in BatStateU through GADC in collaboration with the United States Agency for International Development (USAID), Catholic Relief Services (CRS), Philippine Disaster Resilience Foundation (PDRF), Conservation International, National Mapping and Resource Information Authority (NAMRIA), and the Batangas City Local Government Unit (LGU). The participants of this training were city planners who will develop an improved LCCAP of the city. Then, on November 6-10, 2023, the second training for advanced GIS was conducted by the same organizations. This coincided with the celebration of GIS Day held in BatStateU on November 10, 2023, in collaboration with Geodata Systems.


GIS Training with Climate Resilient Cities Project at BatStateU

I am also involved in ongoing internally funded DRM and CCA-related research projects. Currently, I'm a project staff member in two projects: the "Integration of Psychosocial Support for Post-Traumatic Recovery of Disaster-Affected Areas" and the "CBMMS (Community-Based Monitoring and Mapping System) 2.0: Enhancing Disaster Preparedness in the Municipality of Mabini".

My academic rank has now been elevated to Assistant Professor I from Instructor I. This further allows me to share and apply what I have learned from ICHARM and GRIPS. I am being invited as a resource person in events

for DRM and CCA to give lectures and share my experiences. Also, I am a constant member of different institutional committees in our university related to sustainable development, such as the Committee for Times Higher Education (THE) Impact Rankings, Committee for UI Green Metric World University Rankings, and more.

GIS Day at BatStateU

I am profoundly grateful for the invaluable opportunity given to me by JICA, ICHARM, PWRI, GRIPS, and BatStateU. A heartfelt thanks to Prof. Toshio Koike, Prof. Tomoki Ushiyama, and all the sensei who guided me along the way. Your invaluable mentorship has played a pivotal role in shaping my educational journey, and I am deeply grateful for your support and expertise. The experiences and knowledge gained through the master's program have not only enriched my personal and professional growth but have also equipped me with the tools to contribute meaningfully to my community, especially in the field of disaster risk management and climate change adaptation. Moving forward, I am committed to giving back by sharing the expertise and insights I've acquired, ensuring that the benefits of this journey extend far beyond myself.

Speakership on DRM and CCA-related Events

Public Relations

ICHARM Webinar FY2023 was held after a two-year gap
「ICHARM Webinar FY2023」を開催

2024 年 1 月 11 日、ICHARM の世界的にもユニークな活動を国内外の大学・研究機関に在籍する学生および若手研究者に広く知っていただくことを目的としたオンラインイベント「ICHARM Webinar」を 2 年ぶりに開催し、ICHARM 学生を含め 62 名が参加しました。

前半の全体会議（Plenary session）では、小池俊雄センター長による開会あいさつ、森範行グループ長による ICHARM の活動紹介に続き、ICHARM 若手研究者を代表して内藤健介研究員から、ICHARM 学生を代表してモロッコのファティマ（Ms. Fatima）さん、スリランカのサンジーワ（Mr. Sanjeewa）さん、栗原さんからそれぞれメッセージを送りました。そして、ICHARM のメイン研究テーマである a) 気象学（牛山主任研究員）、b) 水文学（ラスミー主任研究員）、c) 流砂・流路変動（原田専門研究員）、d) 防災リスクコミュニケーション（柿沼研究員）について、各研究員から研究概要紹介を行いました。

後半のテーマ別分科会（Parallel Thematic Discussions）では、参加者は上記 a ～ d の 4 テーマの分科会のうち、最大 2 つの分科会に参加し、ICHARM 研究者と質疑応答、意見交換および交流を行いました。

終了後に実施したアンケートでは、参加者の 76% から「満足（Satisfied）」との回答が得られ、「insightful research topics を共有してもらった」や「発表や議論はとてもよかった」などのコメントをいただきました。その一方で、「音声が聞き取りづらかった」や「事前に発表資料を共有してほしかった」などのコメントもいただきました。皆様

ICHARM held an online event, the ICHARM Webinar, on January 11, 2024, for the first time in two years. The purpose of this event was to widely disseminate its globally unique activities to students and young researchers at universities and research institutions in Japan and abroad. It was attended by 62 people, including students currently studying at ICHARM.

The webinar began with the plenary session. Executive Director KOIKE Toshio made opening remarks, and Deputy Director MORI Noriyuki provided an overview of ICHARM's activities. On behalf of the young research staff at ICHARM, Researcher NAITO Kensuke briefly spoke about working at ICHARM, while representing the students at ICHARM educational programs, a master's student, El Hamri Fatima Ezzahra from Morocco, and two doctoral students, Sanjeewa Punsiri Bandara Illangasingha from Sri Lanka and KURIHARA Yuta from Japan, shared their thoughts and experiences with the audience.

Following this, four researchers explained the four main research themes of ICHARM: Senior Researcher USHIYAMA Tomoki about meteorology, Senior Researcher Mohamed Rasmy about hydrology, Research Specialist HARADA Daisuke about sediment transport and channel change, and Researcher KAKINUMA Daiki about disaster risk communication.

The webinar moved on to Parallel Thematic Discussions in its second half. The participants joined maximum two of the four groups addressing the four main research themes, where they talked about their research interests and asked questions to ICHARM researchers.

Answering the post-event questionnaire, 76% of the participants responded that they were satisfied with the webinar. Some commented that they were pleased to learn about insightful research topics and enjoyed excellent presentations and discussions. On the other hand, some pointed out that voices were hard to hear online and that the presentation materials should have been shared in advance. ICHARM will make necessary improvements for a better webinar in the future by taking these suggestions into account.

Finally, we at ICHARM hope that the webinar helped the participants have a better understanding of our institution and activities. We also hope that many of them will be interested in working with us as colleagues or partners in the future.

ICHARM staff and students and the online participants
参加者と集合写真

のご意見を踏まえ、より良いウェビナーとなるよう今後改善していく所存です。

本ウェビナーを通じて、参加者のICHARMへの理解が深まったことを期待すると同時に、将来何らかの形で参加者の皆さんとお仕事ができることを楽しみにしております。

(Written by KURIBAYASHI Daisuke)

ICHARM held the 71st R&D Seminar
第 71 回 ICHARM R&D セミナーを開催

ICHARM hosts the ICHARM R&D Seminar for its researchers and other participants to update and deepen their understanding of various issues regarding water-related disasters by inviting experts from Japan and abroad to lecture on the latest research and findings. On February 14, 2024, the 71st seminar was held by inviting Professor YOSHIKAWA Minako from the Center for Southeast Asian Studies (CSEAS) at Kyoto University and Associate Professor Faizatul Akmar Abdul Nifa and Senior Lecturer Khai Lin Chong from Universiti Utara Malaysia. The three experts are the principal investigator and co-researchers of an incubation program at CSEAS aimed at improving risk communication of water-related disasters incorporating the prevention of mosquito-borne infectious diseases in the case of Penang, Malaysia. The seminar was planned at the request of the Malaysian researchers, who wished to build a stronger tie between ICHARM and their institute.

The seminar began with Professor Yoshikawa providing an overview of CSEAS. She explained that the center started as a research department of Kyoto University in 1963 to conduct comprehensive research on Southeast Asia. The current CSEAS was established in 2017 with five research groups: cross-regional studies, political & economic coexistence, social coexistence, environmental coexistence, and global humanosphere. She mentioned, among other features, that of the 270,000 books in its collection, one-third are in local languages, making it the largest scale in Asia.

The two experts followed. Associate Professor Nifa gave a presentation titled "Post-Disaster Socio-Economic Community Empowerment: The Case of Kampung Iboi, Baling, Kedah, Malaysia." She discussed the community-based reconstruction activities led by MERCY Malaysia, an international NPO, implemented in the Kampung Iboi area located along the Kupang River, where a landslide disaster occurred in 2022. Senior Lecturer Chong delivered a presentation titled "Bridging the Gap: Converting Flood Simulation Insights into Empowering Community Programs," explaining how to utilize simulations produced by the RRI model for community-based disaster risk management.

After the presentations, the audience joined discussions by asking questions such as whether climate change factors are considered in the reconstruction plan and making comments about how it is possible to promote local ownership in improving community disaster resilience.

After the seminar, the invited speakers also had a meeting with the executive director and other ICHARM executives and exchanged ideas and views about research on sediment-related disasters and internship opportunities at ICHARM.

ICHARMでは、水災害分野に関する国内外の専門家を招聘し、最新の研究や知見について講演いただき、参加者の研鑽を深める機会として、「ICHARM R&D セミナー（ICHARM 研究開発セミナー）」を開催しています。第 71 回の今回は、2 月 14 日に、京都大学東南アジア地域研究研究所（Center for Southeast Asian Studies：CSEAS）から吉川みな子連携教授、マレーシアウタラ大学（Universiti Utara Malaysia）から Faizatul Akmar Abdul Nifa 准教授と Khai Lin Chong 上級講師をお招きしました。なお 3 名は、CSEAS におけるインキュベーション・プログラム「蚊媒介性感染症の予防を取り入れた水災害のリスクコミュニケーションの改善：マレーシアペナンを例として」の研究代表者および共同研究者であり、このたびの ICHARM への訪問は、Nifa 准教授と Chong 上級講師が ICHARM との連携強化を希望されて実現したものです。

まず吉川連携教授から CSEAS の概要を紹介いただき、東南アジアの総合的研究を担う部局として 1963 年に京都大学内に東南アジア研究センターが発足後、2017 年に現在の CSEAS が発足したこと、研究部門として相関地域（Cross-regional Studies）・政治経済共生（Political & Economic Coexistence）・社会共生（Social Coexistence）・環境共生（Environmental Coexistence）・グローバル生存基盤（Global Humanosphere）の 5 つの研究部門を有すること、270,000 の蔵書タイトルの内 3 分の 1 は現地語蔵書でこれはアジアで最大規模であること、などが紹介されました。

次いで、Nifa 准教授から "Post-Disaster Socio-Economic Community Empowerment: The Case of Kampung Iboi, Baling, Kedah, Malaysia" のタイトルで、

2022 年に土砂災害を経験した Kupang 川沿いの Kampung Iboi 地区における、国際 NPO「MERCY Malaysia」を通じたコミュニティベースの復興活動への取組について講演頂きました。さらに、Chong 上級講師から "Bridging the Gap: Converting Flood Simulation Insights into Empowering Community Programs" のタイトルで、RRI モデルでのシミュレーション を CBDRM（Community Based Disaster Risk Management）にどのように生かすかについて講演頂きました。

フロアからは復興計画における気候変動の考慮はされているか、コミュニティのレジリエンス向上において現地がどのようにオーナーシップをもって行うべきか、などについての議論がありました。

セミナー後には、ICHARM センター長や他 ICHARM 幹部と意見交換を実施し、土砂災害についての研究や ICHARM へのインターンシップについて議論を行いました。

＜参考情報＞

講演者 3 名が参画しているインキュベーション・プログラムの詳細はこちら

「蚊媒介性感染症の予防を取り入れた水災害のリスクコミュニケーションの改善 : マレーシアペナンを例として」

https://gcr.cseas.kyoto-u.ac.jp/research-program/r4-1-2_yoshikawa/

For your reference:

Visit the address below for more information about their incubation program at CSEAS:

"Improving Risk Communication in Water-related Disasters by Integrating Prevention of Mosquito-borne Infectious Diseases: A Case of Penang, Malaysia"

https://gcr.cseas.kyoto-u.ac.jp/research-program/en_r4-1-2_yoshikawa/



(From left: Professor Yoshikawa, Associate Professor Nifa, and Senior Lecturer Chong)
（左から　吉川連携教授、Abdul Nifa 准教授、Chong 上級講師）

(Written by KURIBAYASHI Daisuke)

Coming Events

The 10th World Water Forum set to go in Bali, Indonesia next May
第 10 回世界水フォーラムが 5 月にインドネシア・バリで開催

世界水フォーラムは、国際 NGO である世界水会議（World Water Council: WWC）と開催国の主催により 3 年毎に開催される、水に関する世界最大級の国際会議です。この第 10 回目が、「繁栄を共有するための水（Water for Shared Prosperity）」のテーマのもと、2024 年 5 月 18 日～ 25 日にインドネシア・バリで開催されます。世界各国から多様な様々なステークホルダーが集まり、水災害、衛生、ガバナンス、ファイナンスなど水にかかわる幅広い分野に関する知識、経験、実践が共有され、活発な議論が行われることが期待されています。

議論は、主に首脳や閣僚、国会議員、地方自治体や流域組織が参加する「政治プロセス」、特定のテーマに関する経験や優良事例などを共有して解決策を見出す「テーマ別プロセス」、アジア太平洋など各地域の特有の課題への解決策を見出す「地域別プロセス」で行われます。

このうち、テーマ別プロセスでは、

The World Water Forum is the world's largest international conference on water, held every three years under the auspices of the World Water Council (WWC), an international NGO, and the host country. Its 10th conference is scheduled in Bali, Indonesia, from May 18 to 25, 2024, under the "Water for Shared Prosperity" theme. Various stakeholders from around the world will engage in lively discussions, sharing knowledge, experience, and practices across a wide range of water-related fields, including water disasters, sanitation, governance, and finance.

Discussions will take place in three different processes: political, thematic, and regional. The Political Process will focus on policy-related issues, mainly attended by heads of state, ministers, lawmakers, and representatives from local governments and basin-based organizations. The Thematic Process will explore solutions to specific problems by sharing experiences and best practices. The Regional Process will seek solutions to challenges unique to each region, such as the Asia-Pacific.

The Thematic Process has listed 30 discussion topics (five topics for each of the six sub-themes), including "Disaster Risk Reduction and Management." A session will be set up for each topic, and outcomes will be compiled by sub-theme. Preparations have been steadily underway, with the session structure discussed at the 2nd Stakeholder Consultation Meeting held in Bali, Indonesia, in October 2023. In December, the organizing committee started calling worldwide for participation

in sessions and is currently making final adjustments in close cooperation with the coordinators assigned to each session.

ICHARM has been actively involved in the 10th World Water Forum from the preparation stage. Executive Director KOIKE Toshio is the coordinator for a sub-theme, "Disaster Risk Reduction and Management," and has been leading the session planning and coordination and will compile outcomes in collaboration with the WWF10 Secretariat and topic coordinators. The former and current directors for special research, MITSUHASHI Hisashi and FUKUWATARI Takashi, have been responsible for planning and coordinating sessions related to the activities of ICHARM. During the forum, other ICHARM members will also participate in discussions, sharing their research findings and experiences as coordinators and panelists in various sessions, including the one coordinated by the executive director.

All the sessions under the sub-theme "Disaster Risk Reduction and Management" and sessions directly involving ICHARM members are listed in the table below. All forum participants are encouraged to join those sessions.

The forum has launched a website for those looking for details, such as procedures for participation and overviews of each session, at the following address:

https://worldwaterforum.org/

Meeting about the Disaster Risk Reduction and Management session coordinated by Executive Director KOIKE (standing at a table) at the 2nd preparatory meeting in October 2023
小池センター長のコーディネートによるサブテーマ「災害リスクの軽減と管理」の討議
（第２回準備会合　2023 年 10 月）

「災害リスクの軽減と管理」を含む６つのサブテーマの各々に設けられた５つのトピックに関するセッションが会期中に開催され、サブテーマ毎に成果がとりまとめられる予定です。これまでに準備が着々と進められており、2023 年 10 月にインドネシア・バリで開催された第２回準備会合においてセッションの構成が検討され、同年 12 月には各セッションへの参加意向表明が公募されました。現在、各セッションのコーディネーターを中心に最終的な調整が行われているところです。

ICHARM は、準備段階から第 10 回世界水フォーラムに積極的に参画してきました。小池センター長は、サブテーマ「災害リスクの軽減と管理」のコーディネーターとして、WWF10 事務局やトピックコーディネーターと調整しながら、このサブテーマ全体の企画・調整・成果とりまとめを主導しています。光橋前特別研究監及び福渡特別研究監は、ICHARM と特に関係が深いセッションの企画・調整を行ってきました。会期中は、ICHARM のメンバーが、本サブテーマをはじめとするセッションのコーディネーターやパネリストとして研究活動で得た知見・経験を共有し、議論に参画する予定です。

サブテーマ「災害リスクの軽減と管理」及び ICHARM メンバーが直接関わるセッションの一覧は次の通りです。第 10 回世界水フォーラムに参加される際には、ぜひ議論にご参加いただければ幸いです。

第 10 回世界水フォーラムへの参加方法や各セッションの概要など、詳しくは第 10 回世界水フォーラム事務局 HP をご覧ください。
https://worldwaterforum.org/

Contribution to World Water Forum 10 (WWF10) by ICHARM

Topic		Session title	Date & Time	Contribution by ICHARM
HIGH-LEVEL PANEL				
	HLP8	Status of Early Warnings for All (EW4All) initiative	20th, May 13:00-14:30	Co-Coordinator: Executive Director KOIKE
Sub-theme 3. Disaster Risk Reduction and Management Coordinator: ICHARM (Executive Director KOIKE)				
3A. Integrated flood prevention and management	T3A1	Community-based Participation: Combining innovative technologies and approaches with local wisdom	20th, May 14:50-16:20	
	T3A2	Climate resilient flood risk management approaches: towards a greater resilience in the greater resilience in the face of climate change	20th, May 13:00-14:30	
	T3A3	From local to national flood risk management: strengthening collaboration and communication between different governance levels	21st, May 14:50-16:20	
3B. Drought prevention and management	T3B1	Best practices and drought management planning including drought impact mitigation	21st, May 13:00-14:30	
	T3B2	Technologies, financing, stakeholders, and regional cooperation for drought prevention and management	21st, May 10:20-11:50	Presenter: Research Specialist TSUTSUI
3C. Ecosystem-based DRR in the water sector	T3C1	Grassroots to Treetops: Investing in Eco-DRR for Sustainable Future	21st, May 8:30-10:00	
3D. Climate-smart, sustainable and improved resilience of water infrastructures	T3D1	Extreme climate and its impact on water infrastructure	23rd, May 10:20-11:50	
	T3D2	Improving the resilience of water infrastructure to climate change	23rd, May 14:50-16:20	
3E. Early warning systems for all and Emergency response mechanisms	T3E1	Early Warnings for All (EW4All): Learning from transversal cases	20th, May 16:40-18:10	
	T3E2	Accelerating innovation in Early Warning Systems (EWS)	22nd, May 8:30-10:00	
ST3 Cross Cutting Sessions	T3CC1	Adapting to extreme hydrological events induced by climate change for sustainable development	23rd, May 13:00-14:30	Panelist: Director for special research FUKUWATARI
	T3CC2	Science-based policy to make DRR actionable from local to global	23rd, May 16:40-18:10	
Sub Theme 3 Synthesis Session			24th, May 16:40-18:10	
Sub-theme 5. Sustainable Water Finance				
ST5 Cross Cutting Sessions	T5CC1	Evidence-based financing for crises, recovery, and resilience	22nd, May 14:50-16:20	Presenter: Chief Researcher SHINYA
Cross-cutting between Sub-themes				
	CC9	Towards better capacity development and collaboration on data, information, knowledge, and innovation	23rd, May 16:40-18:10	Session coordinator: Director for special research FUKUWATARI
	CC11	Water-related disaster risk reduction under climate change towards transforming to a resilient, sustainable, and inclusive society	24th, May 13:00-14:30	Session coordinator: Executive Director KOIKE Presenter: Senior Researcher MIYAMOTO

List of sessions under the sub-theme "Disaster Risk Reduction and Management" and sessions involving ICHARM members
サブテーマ「災害リスクの軽減と管理」に関するセッション及び ICHARM メンバーが参画するセッションの一覧

(Written by MITSUHASHI Hisashi)

Miscellaneous

Annual Hanami lunch
お花見ランチ

土木研究所幹部と ICHARM で勉学する博士・修士コース学生 23 名との交流を目的とした花見会を 2024 年 4 月 5 日のお昼休みに行いました。今回の花見会は、当日菜種梅雨であったため室内にて行い、土木研究所藤田光一理事長、久保和幸理事に参加いただきました。

初めに、小池俊雄センター長より、桜にまつわる 2 つの談話がありました。1 つ目は 270 年前の僧侶である良寛和尚の句「散る桜　残る桜も散る桜」を紹介したうえで、この短い句の意味をそれぞれで考えるよう促されました。2 つ目は近代日本の実業家・松下幸之助の著作から「静かに春を待つ桜は、一瞬の休みもなく力をたくわえている。たくわえられた力がなければ、時が来ても成就しないであろう。我が力を蓄える人には、時は必ず来る」という言葉を紹介され、力を蓄える時期の重要性を強調し、桜のように研究で花が咲くよう学生に奮起を促されました。また、この言葉は、土木研究所の経営理念にも通じることが紹介されました（※）。

その後、幹部よりプレゼントされた桜餅を食べながらの談笑のあと、藤田理事長から、山が笑っているように見えるというつくば市周辺の山桜について、写真を用いて紹介いただきました。

学生たちは、翌日からの週末は天候が回復したことから、日本の桜を楽しんだことでしょう。

※土木研究所経営理念
https://www.pwri.go.jp/jpn/about/policy/index.html

A cherry blossom viewing party was held during the lunch break on April 5, 2024, as an opportunity to promote interaction between the executives of the Public Works Research Institute (PWRI), including President FUJITA Koichi and Vice President KUBO Kazuyuki, and 23 doctoral and master's course students studying at ICHARM. Though it was usually held outside to have lunch together under cherry blossoms, people gathered indoors this year because it was, unfortunately, a rainy day as Japan was having "*natanetsuyu*," which refers to a period of rainy days ("*tsuyu*") in early spring when yellow rapeseed ("*natane*") blossoms bloom.

During the lunch gathering, Executive Director KOIKE Toshio gave a small talk related to sakura, or cherry blossoms, while quoting two Japanese. First, he shared a haiku poem written by Ryokan, a Buddhist monk from 270 years ago: "Falling sakura blossoms / Those remaining / Also will fall." Instead of elaborating on this rather philosophical poem, he encouraged everybody to savor and ponder what it is trying to convey. Second, he quoted a phrase from a book written by MATSUSHITA Konosuke, the founder of an electric appliance manufacturer now known as Panasonic: "Sakura quietly waiting for spring are tirelessly gathering strength. Without the accumulated strength, they would not be able to bloom when the time comes. For those who gather their strength, their time will surely come." He cheered the students by emphasizing the importance of having a period of accumulating strength to become "full-blown" in their study and research. He also explained that PWRI's management philosophy* shares the essence of this phrase.


Sakura-mochi rice cake
桜餅

People at the gathering enjoyed talking with one another while having lunch and a dessert, "sakura-mochi (sakura-colored rice cake wrapped in a sakura leaf)," brought for everyone by the executives. Then, they also enjoyed President Fujita's photos of wild cherry trees with blossoms on some hills and mountains around Tsukuba City. With the blossoms in full bloom surrounded by other fresh green trees, the hills and mountains looked like they were having a big, happy smile.

Though the weather was not kind to the students for the lunch event, they were lucky enough to have a sunny weekend from the following day. They must have had a great time viewing Japan's cherry blossoms.

*PWRI Research Concepts / Objectives and Projects
https://www.pwri.go.jp/eng/about/policy/index.html


President Fujita showing a photo of wild cherry blossoms
山桜の写真を紹介する藤田理事長


Luncheon participants with a sakura image behind them
桜の写真を背にして集合写真

(Written by FUJIKANE Masakazu)

Personnel change announcements
人事異動のお知らせ

New ICHARM Members

Seven new members joined ICHARM.
They would like to say brief hello to the readers around the world.

FUKUWATARI Takashi / 福渡　隆
Director for Special Research / 特別研究監

It is very important to reduce socio-economic damages from water-related disasters and to manage these risks in the world. I recognize that ICHARM is the most famous center in Japan for providing practical knowledge and technologies useful to reduce water-related risks to other countries. So, I am honored to work with ICHARM members. I will make every effort to contribute to ICHARM's activities.

KOBAYASHI Hajime / 小林　肇
Senior Researcher / 主任研究員

Until two years ago, I was in charge of educational and training programs at ICHARM. Before that, from 2011 to 2012, I worked on international cooperation for the Government of the Republic of Kenya as a JICA flood management expert. I have just started working at ICHARM this April in charge of its educational and training programs once again. I am looking forward to being able to once again help trainees from many countries learn Japanese water disaster and risk management techniques.

TAKEGAWA Shinya / 武川　晋也
Researcher / 研究員

For the past 7 years, I have worked in the research and administrative sections of the Ministry of Land, Infrastructure, Transport and Tourism. I have mainly been involved in the area of rivers and dams, but this is my first time working in an international environment. I will do my best to contribute to ICHARM's activities.

YAMASHITA Daiki / 山下　大輝
Researcher / 研究員

Hi. I joined ICHARM this April as a newly hired staff member. I have always wanted to be involved in disaster prevention all over the world because I experienced the Great East Japan Earthquake and great typhoons. As my major at graduate school was geotechnical engineering, more specifically embankment structures, I need additional study about flooding and its impact. I will do my best to learn the necessary expertise to help reduce flood disaster risk worldwide as soon as possible.

KOISHI Ichiu / 小石　一宇
Collaborating Researcher / 交流研究員

I joined ICHARM as a Collaborating Researcher in April 2024. I was seconded from a technology research institute of a general contractor. At the company, I was mainly engaged in analyzing hydraulic phenomena around civil engineering structures and buildings. I would like to cultivate perspectives to realize a society that is safe from water disasters through research at ICHARM.

NAKABAYASHI Hideaki / 中林　英晃
Deputy Head of General Affairs Division / 副参事

My name is Nakabayashi. I am from Hokkaido. (Have you ever been there?) Years ago, I worked at the Embassy of Japan in Israel, which is unfortunately on TV news every day. I am looking forward to contributing to solving water issues by supporting ICHARM members and students.

NAMAO Yoshihisa / 生尾　祥久
Administer / 主事

I am NAMAO Yoshihisa and just joined ICHARM this April. I once worked at the International Institute of Seismology and Earthquake Engineering of the Building Research Institute, and I feel honored to be a member of a center leading international projects again. I will do my utmost to support everyone.

Position Change

- **NAITO Kensuke:** Researcher
  Senior Researcher

○**内藤　健介**　研究員
主任研究員

Leaving ICHARM

- **MITSUHASHI Hisashi:** Director for Special Research
  Senior Water Resources Specialist, Water Global Practice, World Bank

○**光橋　尚司**　特別研究監
世界銀行　水グローバルプラクティス
シニア水資源専門家

- **TADA Tomokazu:** Senior Researcher
  River Planning Division, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism

○**多田　智和**　主任研究員
国土交通省
水管理・国土保全局　河川計画課付

- **KAKINUMA Daiki:** Researcher
  Head, Planning and Research Administration Department, Public Works Research Institute (PWRI)

○**柿沼　太貴**　研究員
国立研究開発法人土木研究所
研究企画課　主査

- **UMINO Hitoshi:** Research Specialist

○**海野　仁**　専門研究員

- **YAMAGUCHI Noriko:** Deputy Head of General Affairs Division

○**山口　典子**　副参事

- **ONARI Rikako:** Chief Staff
  Hokkaido Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism

○**大成　梨夏子**　主査
国土交通省 北海道開発局
事業振興部都市住宅課　建築業務係長

Business trips / 海外出張リスト

* January -March 2024

- *February 26 to March 2, MIYAMOTO Mamoru and KAKINUMA Daiki, Kuala Lumpur, Malaysia, to participate 56th session of Typhoon Committee*
- *March 7 - 16, Abdul Wahid Mohamed RASMY and TAMAKAWA Katsunori, Sri Lanka, (1) maintenance of real-time rainfall observation and data transfer system in Sri Lanka (2) attend the 5th plenary session of the platform on water resilience and disasters*
- *March 12 - 17, NAITO Kensuke (March 12 - 14) and Serrano Jonathan Suba, Philippines, (1) deliver and install equipment to UPLB (2) give a briefing session on how to use the equipment*
- *March 13 - 17, KOIKE Toshio (March 14 - 17,) and MIYAMOTO Mamoru (March 13 - 16,), Colombo, Sri Lanka, to hold "the Fifth Plenary Session for the Platform on Water Resilience and Disasters"*
- *March 21 - 27, KOIKE Toshio (March 24 - 27,) and MIYAMOTO Mamoru, Bangkok, Thailand, (1) to hold "Kick–off Meeting for AOP7 Flood Resilience Enhancement through Platform on Water Resilience and Disaster" (2) to conduct field surveys of the SATREPS project and will summarize Item (3) SATREPS project with the members at Chulalongkorn University*

Visitors / 訪問者リスト

* January -March 2024

- *Visited by Kyoto University and Universiti Utara Malaysia, February 14, 2024*
  YOSHIKAWA Minako (Professor, Center for Southeast Asian Studies, Kyoto University)
  Faizatul Akmar Abdul Nifa (Associate Professor, Disaster Management Institute, School of Technology Management and Logistics, Universiti Utara Malaysia)
  Khai Lin Chong (Senior Lecture, Disaster Management Institute, School of Technology Management and Logistics, Universiti Utara Malaysia)
  Purpose: invited speakers for the 71st ICHARM R&D Seminar
  See "ICHARM held the 71st R&D Seminar**" on page 21.*
- *Visited by Department of Public Works and Highways (DPWH), the Philippines and CTI Engineering International staff, March 28, 2024*
  Grecile Christopher R. Damo (Project Manager II)
  Fidel M. Alindada Jr. (Engineer III / Project Inspector for CP3),
  Francis Philip A. Sawali (Engineer III / Site Engineer for CP2),
  Jon-Jon A. Amoyo (Engineer III / Site Engineer for CP3)
  Pauline Mendiola (Engineer II / Site Engineer for CP2)
  Purpose: Discussion with ICHARM researchers
  See "The DPWH delegation visited ICHARM for effective collaboration**" on page 8.*

Publications / 対外発表リスト

* January -March 2024

1. Journals, etc. / 学術雑誌（論文誌、ジャーナル）

- *Vicente Ballaran, Jr, OHARA Miho, Abdul Wahid Mohamed RASMY, HOMMA Koki, AIDA Kentaro, HOSONUMA Kohei, Improving rice crop damage estimation from flooding events using open - source satellite data and UAV image data, AgriEngineering No.6, pp.574-596, March 4, 2024*
- *Md.Khairul Hasan, Abdul Wahid Mohamed RASMY, KOIKE Toshio, TAMAKAWA Katsunori, An integrated approach for the climate change impact assessment on the water resources in the Sangu river basin, Bangla-desh, バングラデシュのサング川流域の水資源に対する気候変動影響評価のための統合的アプローチ, Water No.16, MDPI, pp.745, February 29, 2024*
- *Kohei Hosonuma, Kentaro AIDA, Vicente Ballaran, Jr, Naoko NAGUMO, Patricia Ann Sanchez, Tsuyoshi Sumita, Koki Homma, Evaluation of geographical and annual changes in rice planting patterns with satellite images in flood-prone area of Pampanga River Basin, the Philippines, Remote Sensing No.16, MDPI, pp.499, January 28, 2024*
- *SYLDON Pema, Shrestha Badri Bhakta, MIYAMOTO Mamoru, TAMAKAWA Katsunori, NAKAMURA Shinichiro, Assessing the Impact of Climate Change on Flood Inundation and Agriculture in the Mountainous Region of Bhutan, Journal of Hydrology: Regional Studies No.52, Elsevier B.V., January 25, 2024*
- *Badri Bhakta Shrestha, Abdul Wahid Mohamed RASMY, and Takafumi SHINYA, Assessment of flood damage to residential houses and analysis of effectiveness of flood damage reduction measures, Journal of JSCE, 12 (2), 23-16158, February 2024. https://doi.org/10.2208/journalofjsce.23-16158*
- *会田健太郎、久保田啓二朗、浅沼順、開發一郎、小池俊雄、モンゴル長期土壌水分観測データを用いた衛星SAR土壌水分推定アルゴリズムの汎用性向上のための検討、土木学会論文集特集号（水工学）、第80巻 16号、23-16066、2024*
- *江頭進治、南雲直子、原田大輔、秦梦露、浮遊砂卓越河川における流砂の分級について、土木学会論文集特集号（水工学）、 第 80巻 16号、23-16055、2024*
- *秦梦露、原田大輔、江頭進治、斜面侵食に着目した流域土砂輸送モデル、土木学会論文集特集号（水工学）、 第 80 巻 16 号、23-16088、2024*
- *原田大輔、江頭進治、Md Majadur Rahman、浮遊砂が卓越する河川における流路変動の解析、土木学会論文集特集号（水工学）、第80巻 16号、23-16174、2024*

2. Oral Presentations (Including invited lectures) / 口頭発表（招待講演含む）

- *海野仁、Abdul Wahid Mohamed RASMY、牛山朋來、栗林大輔、気候モデルを用いたインドネシア国ソロ川上流域の渇水調整、土木学会関東支部第51回技術研究発表会、2024年3月5日*

3. Poster Presentations / ポスター発表

None / 該当者無し

4. Magazines, Articles / 雑誌、記事（土技資含む）

None / 該当者無し

5. PWRI Publications / 土研刊行物（土研資料等）

- *No4446、伊藤弘之、江頭進治、岡田智幸、鷲尾洋一、宮崎了輔、2019-2020 修士課程「防災政策プログラム水災害リスクマネジメントコース」実施報告書、2024年3月*
- *No4446, ITOU Hiroyuki, EGASHIRA Shinji, OKADA Tomoyuki, WASHIO Yoichi, MIYAZAKI Ryosuke, Report on 2019-2020 M.Sc. Program, "Water-related Disaster Management Course of Disaster Management Policy Program", March, 2024*

6. Other/ その他

None / 該当者無し

Editor's Note
編集後記

ICHARM has marked its 19th April. The month of April is when a new fiscal year starts and staff rotation commonly occurs in Japan. ICHARM has also welcomed eight new staff members, including those newly hired by PWRI, and made a fresh start for another fruitful year. Established in March 2006, ICHARM has turned 18, reaching the legal age of adulthood in Japan. We know too well that our growth and achievements in and outside the country during these 18 years are owed to all our supporters around the world.

In May, shortly after the publication of this issue, the 10th World Water Forum is scheduled to be held in Bali, Indonesia. As mentioned in an article, the executive director of ICHARM has already been actively involved in the conference as the coordinator of a subtheme event, "Disaster Risk Reduction and Management," leading all its processes from planning to coordinating to compiling outcomes. ICHARM sees this triennial forum as a significant opportunity to build and strengthen networks both domestically and internationally. We would be grateful if those who plan to participate in the forum could also join our session.

We appreciate your continued support this year and look forward to seeing you in Bali.

ICHARM Newsletter Editorial Committee
KURIBAYASHI Daisuke

2024 年 4 月となり、ICHARM は 19 回目の 4 月を迎えました。土木研究所新規採用職員含めて新たに 8 名のスタッフが加わって、新年度の活動が始まりました。2006 年 3 月に発足した ICHARM は 18 歳となり、日本の法律的には「成年年齢」に達しました。ここまで ICHARM が国内外で様々な活動を進めることが出来たのも、皆様のおかげであることを改めて認識し、厚くお礼申し上げます。

本号発行後まもなく、5 月にはインドネシア・バリにて第 10 回世界水フォーラムが開催される予定です。記事にもありましたように、ICHARM 小池センター長はサブテーマ「災害リスクの軽減と管理」のコーディネーターとして、サブテーマ全体の企画・調整・成果とりまとめを主導しています。ICHARM は 3 年に 1 回の本フォーラムの機会を捉え、国内外におけるネットワーク構築・強化につなげたいと考えています。ご参加予定の皆様には、ぜひ議論に参加いただければ幸いです。

今年度もどうぞよろしくお願いいたします。

メーリングリストへ登録ご希望の方は、下記 ICHARM ホームページの
登録フォームか QR コードからご登録ください。
To subscribe the ICHARM Newsletter, please access the following site or the QR cord;
https://www.pwri.go.jp/icharm/mailmag/index.html

また、今後の配信を希望されない方やメールアドレスが変更になった方は
下記アドレスまでご一報ください。ご意見・ご感想もお待ちしています。
For those who want to unsubscribe the Newsletter, please contact us:
icharm@pwri.go.jp
We welcome your comments and suggestions.

ICHARM Newsletter Subscription