

Newsletter



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ICHARM

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

Message from Executive Director

"for All" and "by All"



At the 27th session of the Intergovernmental
Hydrological Programme Council in Paris
on June 5, 2026
第27回政府間水文学計画（IHP）政府間理事会
にて（パリ、2026年6月5日）

"Water for All" is an initiative launched by a private European company in 1984. In 2003, the Asian Development Bank initiated a program under the same name, aiming to address issues such as health, gender, and the environment, as well as to eradicate poverty. In 2010, a UN-led partnership activity titled "Sanitation and Water for All (SWA)" began. Subsequently, in 2015, Sustainable Development Goal (SDG) 6—"Ensure availability and sustainable management of water and sanitation for all"—was established. The phrase "for All" was used in these cases.

In Japan, a new policy for flood risk reduction was launched in 2021 to address the increasingly frequent and severe flood disasters caused by climate change. This policy aims to build a resilient and sustainable society

through a "total-effort" approach involving all stakeholders across the river basin. The English title of the policy is "River Basin Disaster Resilience and Sustainability by All." The phrase "by All" was chosen to emphasize the importance of every individual taking personal ownership of the initiative, with the spirit of "for All" underlying the effort.

In 2025, a policy recommendation was issued to treat the entire river basin as a single system, fostering collaboration among stakeholders to improve sustainable water use, flood resilience, and environmental conservation. The English translation adopted for this policy was "Integrated River Basin Management for All." It was explained that the phrase "for All" encompasses not only human beings but all living things.

Buddhism teaches that "all sentient beings without exception have the Buddha-nature," a concept that—when intertwined with Japanese spiritual culture—gave rise to the idea that "mountains, rivers, grasses, and trees all attain Buddhahood." By combining the principles of "for All" and "by All," ICHARM aims to contribute to the development of a sustainable and resilient society that harnesses the blessings of water while remaining protected from its threats.

「for All」と「by All」

「すべての人にきれいな水を」は、欧州の民間企業によって1984年に始められたイニシアチブです。2003年にはアジア開発銀行により、健康、ジェンダー、環境等の課題解決と貧困撲滅をも含めた同名の取り組みが始まっています。2010年には「すべての人に安全な水と衛生環境を」という国連主導のパートナーシップ活動が始まりました。そして2015年、「すべての人々に水と衛生へのアクセスと持続可能な管理を確保する」という持続可能な開発目標（SDG）6が定められました。これらにおいて、「すべての人に」はfor Allと英訳されています。

我が国では、気候変動によって頻発する激甚な洪水災害への対応として、流域のすべての関係当事者が参加して、社会全体の総力戦によってレジリエントで持続可能な社会の形成を目指す「流域治水」政策が2021年より開始されました。この政策の英訳は、「for All」を前提とした上で、一人ひとりが自分事として捉えて取り組むという観点も考慮して、「River Basin Disaster Resilience and Sustainability by All」とされました。

2025年には、流域全体をひとつのシステムとして捉え、関係当事者が連携し、持続可能な水利用、災害レジリエンス、環境保全を一体的に改善する「流域総合水管理」政策が答申されました。この英訳は「Integrated River Basin Management for All」とされました。この「for All」は、人はもちろん、生きとし生けるものすべてを指すという説明がありました。

仏教には「一切衆生悉有仏性」という教えがあり、日本の精神文化と結びついて「山川草木悉皆成仏」という考えが生まれています。「for All」と「by All」を組み合わせ、水の恵みを活かし、水の脅威から守られた持続可能で強靱な社会づくりに貢献したいと思います。

July 31, 2026
KOIKE Toshio
Executive Director

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Special Topics

The 10th ICHARM Governing Board Meeting 第10回 ICHARM 運営理事会会合を開催

ICHARM held its 10th Governing Board (GB) Meeting on June 16, 2026. In accordance with the agreement signed between the government of Japan and UNESCO, the GB meeting is held once a year to review and adopt ICHARM's yearly activity report and work plan. The current board, consisting of seven members, met in a hybrid format, either online or in person at the National Graduate Institute for Policy Studies (GRIPS). The meeting was chaired by FUJITA Koichi, the president of the Public Works Research Institute (PWRI), with observers from Japan's two ministries, the Ministry of Foreign Affairs and the Ministry of Education, Culture, Sports, Science and Technology, and the Japan International Cooperation Agency (JICA).



GB members, observers, and ICHARM staff

集合写真（上：Web 参加委員・オブザーバおよび会議室 下：対面参加委員および運営理事会事務局）

Moderated by ICHARM Research Specialist NAGUMO Naoko, the meeting began with opening remarks by PWRI President Fujita. He reported that ICHARM, which is celebrating its 20th anniversary this year, had made many achievements in the field of water-related disasters through its three principal pillars of research, training, and information networking, and received the Long-Term Contribution Award presented by UNESCO in June 2025. He also mentioned that three new courses, "Water and Sanitation," "Water and Poverty," and "Water and Peace," had been added to the doctoral program.

Then, Executive Director KOIKE Toshio and Research Specialists QIN Menglu and Nagumo explained the principal activities that ICHARM carried out during FY2025. Their presentations included the public release of an interface for the Rainfall-Sediment Runoff model (RSR model); participation in the World Bank India Project and the UNESCO Kenya and Ghana Project; capacity development initiatives such as the establishment of the three new doctoral courses; and facilitation of global networking efforts to collaborate with UN organizations and foreign governments. The GB members reviewed these and other activities.

After that, the executive director continued explaining the biennial self-assessment regarding the tasks and projects described in the Work Plan FY2024-FY2025. The

ICHARM は、2026 年 6 月 16 日に第 10 回 ICHARM 運営理事会会合を開催しました。運営理事会会合は、日本国政府とユネスコとの協定に基づき、ICHARM の活動に関する報告書 (Activity Report) の審査、事業計画 (Work Plan) の審査・採択などのために、年に一度開催しています。本会合は 7 名の委員で構成され、今回は政策研究大学院大学において、対面・オンライン併用方式で開催しました。議長は土木研究所・藤田光一理事長が務め、オブザーバとして外務省、文部科学省、(独)国際協力機構 (JICA) にも参加していただきました。

南雲直子専門研究員の司会の下、まず藤田理事長が開会挨拶として、今年設立 20 周年を迎えた ICHARM が、水災害の分野において研究、能力開発、情報ネットワークの三本柱の活動で数多くの実績を残し、昨年 6 月にユネスコ貢献賞を受賞したことを報告しました。併せて、水と衛生、水と貧困、水と平和の 3 つの新しい博士課程のカリキュラムが開設されたことにも言及しました。

次に、小池俊雄センター長、秦夢露専門研究員および南雲専門研究員から、2025 年度の主な ICHARM 活動成果として、水・土砂・流木を一体的に解析するモデル (RSR モデル) のインターフェースの公開、世界銀行のインドプロジェクトやユネスコのケニアおよびガーナプロジェクトへの参画、博士課程の新しいカリキュラムの開設などの能力開発、主要な国連組織や外国政府との国際ネットワーク活動などを説明し、審査を受けました。

続いて、小池センター長が、2024-2025 年度の事業計画 (Work Plan) に対する自己評価 (Biennial self-assessment) について、4 段階 (S・A・B・C) のうち、S (目標以上の達成・極めて優秀) と B (部分的な達成・やや不十分) と自己評価した活動を中心に説明しました。

続いて、2026-2027 年度の事業計画案を審査いただき、満場一致で採決されました。

最後に、各委員から総括的なコメントをいただいた後、土木研究所数雅行理事が開会挨拶を述べました。数雅理事は、各委員の支援に謝意を表するとともに、いただいたご意見を今後の ICHARM の活動に反映させ、社会の強靱化と持続可能性の実現に積極的に取り組んでいく旨発言しました。

なお、本会合での配布資料は、下記 ICHARM ホームページでご覧いただけます。

(日本語版)

https://www.pwri.go.jp/icharm/about/governingboard_j.html

(英語版)

<https://www.pwri.go.jp/icharm/about/governingboard.html>

以下に、会合における委員の主なご発言を記載します。

廣瀬昌由委員（国土交通省 技監）

・昨年、国土交通省では8年ぶりに渇水対策本部を設置した。科学的な根拠に基づく気候変動適応策はますます重要な課題となっており、ICHARM への期待は非常に大きい。

・ICHARM がインド政府・世界銀行とともに進めているダム貯水池の運用最適化プロジェクトは、日本の高度な管理技術を用いた国際貢献の好事例と言える。

・ICHARM は、修士課程と博士課程の修了者を合計 226 名輩出しており、Alumni Webinar 等で最新の研究成果や各国の取組みを共有し、継続的な人材育成に大きく貢献していると認識している。

・国土交通省として、引き続き ICHARM の活動を支援していく。ICHARM が、今後も世界の水災害軽減に大きく貢献することを期待する。

アブ・アマニ委員（ユネスコ水科学部長兼政府間水文学計画（IHP）事務局長）

・博士課程の水と衛生、水と貧困、水と平和の3つの新しいカリキュラムの導入は非常に重要である。水災害に関する課題は、水に関連する地球規模の諸課題と密接に関係しており、これらを切り離して考えることはできない。

・現場における能力開発を推進するには、受益者に対して継続的な学習支援のあり方について検討し、持続可能なツールを利用することが重要である。

・ICHARM の卒業生は、各国における ICHARM の大使であるため、関係を維持することが非常に重要である。そのためのデータベースの構築は良い試みである。

・2026 年国連水会議における ICHARM の貢献に期待する。UNESCO は ICHARM の活動を支援していく。

explanations focused mainly on items rated “S” or “B” on the four-point scale of S (Excellent, more than planned), A (Good, as planned), B (Satisfactory, less than planned), and C (Poor, far less than planned).

He also presented the Work Plan FY2026-FY2027 to the GB members, who accepted it unanimously.

To wrap up the meeting, each GB member made an overall comment. Then, in his closing remarks, Vice President of PWRI YABU Masayuki thanked all the GB members for their support and stated that all the comments and suggestions provided by the GB members will be reflected in the ICHARM activities, and ICHARM will proactively engage in strengthening social resilience and advancing sustainability.

The documents and presentation slides used for the meeting are available at the following address:

<https://www.pwri.go.jp/icharm/about/governingboard.html>

Listed below are the governing board members with a summary of their comments:

【HIROSE Masayoshi, Vice Minister for Engineering Affairs, Ministry of Land, Infrastructure, Transport and Tourism (MLIT)】

- Last year, MLIT established the Water Shortage Countermeasures Headquarters for the first time in eight years. Climate change adaptation measures based on scientific evidence are becoming increasingly important, and expectations for ICHARM are extremely high
- The reservoir operation optimization project being carried out by ICHARM in collaboration with the Government of India and the World Bank can be regarded as a good example of international contribution through the application of Japan's advanced management technologies.
- ICHARM has produced a total of 226 alumni from its master's and doctoral programs. Through initiatives such as Alumni Webinars, it shares the latest research findings and national efforts, thereby making a significant contribution to continuous capacity development.
- MLIT will continue to support ICHARM and hopes that it will keep making contributions to reducing water-related disaster damage worldwide.

**【Abou AMANI, Director of the Division of Water Sciences and Secretary of the Intergovernmental Hydrological Programme, United Nations Educational, Scientific and Cultural Organization (UNESCO)】**

- The introduction of three new doctoral courses, “Water and Sanitation,” “Water and Poverty,” and “Water and Peace,” is highly significant. Issues related to water-related disasters are closely interconnected with global challenges associated with water, and cannot be considered in isolation.
- To promote capacity development in the field, it is important to consider approaches for providing continuous learning support to beneficiaries and to utilize sustainable tools.
- Alumni serve as ambassadors of ICHARM in their respective countries; therefore, maintaining strong relationships with them is of critical importance. The development of a database for this purpose is a positive initiative.
- We look forward to ICHARM's contributions to the 2026 United Nations Water Conference. UNESCO will continue to support ICHARM's activities.



【IIZUKA Michiko, Vice President, National Graduate Institute for Policy Studies (GRIPS)】

- ICHARM's activities, grounded in scientific evidence and structured with a view toward the practical application and dissemination of their outcomes, are highly commendable. GRIPS also looks forward to continuing its involvement, particularly in terms of training.



飯塚倫子委員（政策研究大学院大学副学長）

• ICHARM は、科学的根拠に基づく活動を基盤とし、その成果の社会実装および普及までを見据えた構成が素晴らしいと感じた。本学も研修の面で引き続き関わっていききたい。

松岡 由季 委員（国連防災機関（UNDRR）駐日代表）

• ICHARM の活動成果についての評価項目である「成果の普及」の自己評価が低い傾向がみられる。ICHARM の素晴らしい成果をより発信できるよう、次回の運営理事会への報告書において高い自己評価に結びつくよう、引き続き成果の発信に取り組むことを期待する。

• UNDRR はジェンダー平等やジェンダー公正を重視していることから、ICHARM の研修やワークショップ等への女性参加者の比率等のジェンダー統計データについて、運営理事会に提出される報告書に継続的に記載することを求める。これについては過去にも運営理事会において UNDRR は一貫して要請してきたが、今回も含まれなかったことを懸念する。

• 仙台防災枠組の達成目標である 2030 年まで残り 5 年を切っている。仙台防災枠組の実施加速への更なる ICHARM の貢献を期待するとともに、2027 年に仙台で UNDRR が開催予定のアジア太平洋防災閣僚級会議へ ICHARM が積極的に参加することを期待する。

ウェイン・ジェンキンソン委員（世界気象機関 水文および雪氷圏担当部長）

• 「すべての人に早期警報システムを」イニシアティブの観点から、能力開発のための研修の取組みは非常に高く評価できる。一方で、研修の持続性と自立性については重要な課題であり、長期的な評価が求められる。

• WMO が運用するネットワークについて、ICHARM の活動の普及・研修・プロジェクト推進に役立つものは積極的に活用してほしい。

【MATSUOKA Yuki, Head, United Nations Office for Disaster Risk Reduction (UNDRR) Kobe Office】

- Regarding one of the self-assessment criteria "dissemination" of achievements by ICHARM's activities, there appears to be a tendency for this criterion to be low "B: Satisfactory, less than planned" in the self-assessment document. In this respect, continued efforts are encouraged to further disseminate excellent results of ICHARM's work, so that the report submitted to the next Governing Board will lead to a higher result of self-assessment.
- Given UNDRR's strong emphasis on gender equality and equity, it is requested that statistical data, including the gender distributions such as female participants in training programs and workshops, be regularly incorporated into the reports submitted to the Governing Board. The same request was consistently made by UNDRR at the Governing Board meetings in the past, but this item was not included in the report this year again, which remains a concern for UNDRR.
- With less than five years remaining until 2030, the target year for achieving the goals set out in the Sendai Framework for Disaster Risk Reduction 2015-2030, UNDRR looks forward to ICHARM's continued efforts to contribute to accelerating the implementation of the Sendai Framework. ICHARM is expected to actively participate in and contribute to the Asia-Pacific Ministerial Conference on Disaster Risk Reduction (APMCDRR) to be organized by UNDRR in Sendai City in 2027.



【Wayne JENKINSON, Director, Hydrology and Cryosphere Division, World Meteorological Organization (WMO)】

- From the perspective of the "Early Warnings for All (EW4ALL)" initiative, the efforts in capacity development through training are highly commendable. However, ensuring the sustainability and self-sufficiency of such training remains a key challenge, necessitating long-term assessment.
- Regarding the networks operated by WMO, ICHARM is encouraged to actively utilize those that can support the dissemination of its activities, training programs, and project implementation.



(Written by MOROOKA Yoshimasa)

ICHARM20 周年記念事業

世界の水災害の軽減を目的として、ユネスコと日本政府との合意に基づき、2006年3月6日、ICHARMが設立されました。以降、研究・研修・情報ネットワーク活動を3本柱として、様々な活動を行ってきましたが、ICHARMが歩んできた20年間は、気候変動とそれに伴う水災害の激甚化が世界的な課題として認識されるとともに、水災害に関する科学技術が大きく発展した時代でもありました。

今年設立20周年という大きな節目を迎え、これまで20年間にわたるICHARMの活動と成果を広く発信し、さらに今後のICHARMのあるべき姿や果たすべき役割について議論し、共有する貴重な機会でもあることから、以下のような記念事業を企画・実施し、水災害を取り巻く社会の将来像や、今後のICHARMの役割、活動の方向性などについて幅広く議論を行いました。

これら一連の取り組みを通じて寄せられた期待や示唆を、今後の活動や実行戦略に反映し、20周年を次なる未来を切り拓く新たな出発点としてまいります。

ICHARM's 20th anniversary commemorative events

Established on 6 March 2006 under an agreement between UNESCO and the Government of Japan, ICHARM has been engaged in a wide range of activities based on its three core pillars of research, training, and information networking, with the mission of reducing water-related disasters around the world. The past two decades of ICHARM's journey have coincided with a period in which climate change and the increasing severity of water-related disasters have come to be recognized as global challenges, while science and technology related to water disasters have advanced significantly.

As ICHARM celebrates its 20th anniversary this year, this milestone provides a valuable opportunity not only to share its activities and achievements over the past two decades with a wider audience, but also to discuss and exchange views on its future vision and the roles it should play in the years ahead. With this in mind, ICHARM planned and implemented a series of commemorative events, through which broad discussions were held on the future of society in the face of water-related disasters, as well as on ICHARM's future roles and strategic direction.

ICHARM will incorporate the expectations, insights, and recommendations generated through the commemorative events into its future activities and implementation strategies, and use this 20th anniversary as a new starting point from which to shape the future and further advance ICHARM's mission.

ICHARM 20th Anniversary Symposium on “Reducing water-related disaster risk to build a sustainable society”

「持続可能な社会構築のための水災害リスクの軽減」シンポジウムの開催

ICHARMは2026年6月17日、国土交通省、文部科学省、日本ユネスコ国内委員会の後援の下、政策研究大学院大学 想海樓ホールにおいて、「持続可能な社会構築のための水災害リスクの軽減」シンポジウムを政策研究大学院大学と共催しました。

本シンポジウムは、ICHARM20周年記念事業として開催し、海外から18名の参加を含め、218名の会場参加、約300名のオンライン参加を頂きました。また、ICHARMが政策研究大学院大学、JICAと連携し実施している研修プログラムの出身者も招いて、地域内協力や、今後の分野横断的な取り組みのあり方、実務者能力育成などについて議論しました。

主催者挨拶、来賓挨拶ののち、各セッションが実施されました。本シンポジウムを通じ、各分野の専門家による最新の知見やICHARMによるこれまでの研究成果の共有・発信を行うとともに、水災害を巡る今後の取り組みのあり方と科学技術・能力開発に関するICHARMの役割を明示したStatement（実行戦略）を提示することができました。この成果は今後、「水の日」・「水の週間」第50回特別行事として7月28日開催の「水の未来を考える国際シンポジウム」や、12月にアブダビ（アラブ首長国連邦）で開催予定の「国連水会議2026」等を通じ発信していきたいと考えています。

シンポジウムのプログラムは英文中の表の通りです。

ICHARM and the National Graduate Institute for Policy Studies (GRIPS) co-hosted the ICHARM 20th Anniversary Symposium: Reducing water-related disaster risk to build a sustainable society on June 17, 2026, at the Sokairou Hall of GRIPS in Tokyo, Japan. The event was supported by Japan's two ministries – the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Ministry of Education, Culture, Sports, Science and Technology (MEXT) – as well as the Japanese National Commission for UNESCO.

This symposium was held as part of ICHARM's 20th anniversary commemorative events and was attended by 218 participants on-site and around 300 participants online, including 18 attendees from overseas institutions and alumni of the educational programs jointly conducted by ICHARM, GRIPS, and the Japan International Cooperation Agency (JICA).



Discussions were held on regional cooperation, future cross-sectoral approaches, and the development of practical capacities.

The symposium began with opening remarks by the organizers and addresses by distinguished guests, followed by several sessions consisting of presentations and panel discussions. Through this symposium, the latest insights from experts in various fields, as well as the research achievements accumulated by ICHARM, were shared and disseminated, and ICHARM presented the Statement (implementation strategy) outlining future directions for addressing water-related disasters and ICHARM's role in science, technology, and capacity development. These outcomes will be further shared at upcoming events such as the International Symposium on “the Future of Water” on July 28, held as a special commemorative event marking the 50th “Water Day” and “Water Week” in Japan, and the UN Water Conference 2026 in Abu Dhabi (UAE) in December.

The following provides summaries of each session. Presentation materials and photos are available on our website at https://www.pwri.go.jp/icharm/special_topic/20year_anniversary_site/programme.html.

ICHARM 20th Anniversary Symposium

Reducing water-related disaster risk to build a sustainable society

1. 09:30 – 10:30 Opening	
Welcome remarks from organizers:	FUJITA Koichi (PWRI), OTA Hiroko (GRIPS)
Remarks from honorable guests:	HIROSE Masayoshi (MLIT), KITAYAMA Koji (MEXT), TANAKA Akihiko (JICA), Abou Amani (UNESCO), MATSUOKA Yuki (UNDRR), Bambang Brodjonegoro (ADB), Video message from Wayne Jenkinson (WMO)
2. 10:30 – 11:05 Activity Report from ICHARM	
Speakers:	KOIKE Toshio (ICHARM), OHARA Miho (University of Tokyo), MIYAMOTO Mamoru (ICHARM)
3. 11:15 – 12:15 Panel Discussion “Toward Regional Cooperation in ITCZ”	
Coordinator:	MIYAMOTO Mamoru (ICHARM)
Panelists:	Anthony C. Sales (DOST, Philippines), Kittisak Pitakwong (ONWR, Thailand), Seenipellage Chaminda Sugeeswara (Additional Secretary to the President, Sri Lanka), Basara Betty Namulunda (WFP, South Sudan), Andrea Mariel Juarez Lucas (World Bank)
4. 13:20 – 14:30 Short Lectures	
Moderator:	OZAWA Kazumasa (GRIPS)
Lecturers:	Water and Sanitation: FURUMAI Hiroaki (Chuo University), Water and Peace: Jerome Delli Priscoli (Water Policy Journal), Water and Poverty: KAWASAKI Akiyuki (University of Tokyo)
5. 14:35 – 15:35 Panel Discussion “Water Disaster and Sanitation, Poverty, Peace”	
Coordinator:	HIROKI Kenzo (GRIPS)
Panelists:	ISHIWATARI Mikio (Meiji University), KAWASAKI Akiyuki (University of Tokyo), UMEDA Masaki (SORA Technology), Norain Binti Osman (PWD, Malaysia), El Hamri Fatima Ezzahra (Ministry of Infrastructure and Water, Morocco), Rahman MD Shahinur (BWDB, Bangladesh)
6. 15:40 – 16:40 Panel Discussion “Future Prospect of Capacity Development”	
Coordinator:	KOIKE Toshio (ICHARM)
Panelists:	Levent Kavvas (University of California, Davis), CHIBANA Takeyoshi (GRIPS), SAITO Mitsunori (JICA), SAITO Keiko (World Bank), Abou Amani (UNESCO)
7. 16:40 – 17:00 Adoption of Statement and Closing	

以下、各セッションの報告です。
なお、本シンポジウムの発表資料や写真等は ICHARM ホームページで閲覧になれます。

https://www.pwri.go.jp/icharm/special_topic/20year_anniversary_site/programme_j.html



ICHARM 活動報告

小池俊雄センター長から、設立経緯から20年間の研究、研修、情報ネットワーク活動について、特にこの20年で顕在化している気候変動への適応という視点から活動報告がありました。

続いて大原美保招へい研究員（東京大学教授・元 ICHARM 主任研究員）から、ICHARM 出身研究員および若手研究員を中心として取りまとめられた今後10年の ICHARM の活動の方向性について提案がありました。

加えて宮本主任研究員（GRIPS 連携教授）から、研修プログラム卒業生との研修に関する意見交換結果とそれを踏まえた将来戦略について報告されました。

ショートレクチャー

最初に政策研究大学院大学の小澤一雅教授より、GRIPS と ICHARM で運営している防災学博士課程に関するこれまでの経緯や、統合的な科学的知見を踏まえ分野横断の協力を基に意思決定できる水災害分野のリーダーを養成するため2025年度から3つの新科目を加えたことについて紹介があり、これら新科目をテーマとして、3名の講師からレクチャーがありました。

まず「水と衛生」について、古米弘明中央大学研究開発機構教授から、人類の生活と発展との関係性、都市化とともに安全な水供給や下水道管理が進展してきた経緯が紹介され、SDG6達成のためのWASH、そのためのインフラ整備、資源保全、衛生教育の重要性、さらには気候変動による洪水や干ばつの増加と水質悪化や感染症拡大のリスクの増大への懸念と、これに対する強靱な水・衛生対策の強化が指摘されました。

続いて「水と平和（水の安全保障と戦争—平和構築および公共外交）」について、Water Policy Journal の Jerome Delli Priscoli 編集委員長から、水が戦争の手段である一方で協力や対話を促す強力な媒介として機能してきた経緯を自身の経験や中東和平交渉などの事例を交えて紹介されるとともに、水を巡る問題は、単なる資源問題ではなく、社会や安全保障とも深く関わるため、平和と協力を生む手段として活用すべきであることが指摘されました。

最後に「水と貧困」について、川崎昭如東京大学教授から、水関連災害は貧困と深く結びつき、特に脆弱層に大きな影響を与え、教育機会の喪失など長期的な社会的損失を招くことの説明があり、経済・工学・実務を統合した学際的アプローチにより、貧困と洪水リスクの偏在を把握し、政策立案や格差は正に活用することの重要性が述べられました。

Activity Report from ICHARM

Executive Director KOIKE Toshio delivered an activity report covering the history of ICHARM's establishment and its 20 years of activities in research, training, and information networking, from the perspective of adaptation to climate change, a phenomenon that has become increasingly evident over the past two decades.

OHARA Miho, a fellow of ICHARM, also currently a professor at the University of Tokyo and formerly a senior researcher of ICHARM, presented a proposal outlining the direction of ICHARM's activities over the next ten years, compiled primarily by its young researchers and former researchers.

Senior Researcher MIYAMOTO Mamoru, also a professor at GRIPS (joint appointment), reported on the results of discussions with alumni of the educational programs regarding training initiatives, as well as the future strategy developed based on those exchanges.

Short Lectures

GRIPS Professor OZAWA Kazumasa served as the moderator for this session. To begin, he outlined the history of the GRIPS-ICHARM joint doctoral program in disaster management. He then explained that three new courses — “Water and Sanitation,” “Water and Peace,” and “Water and Poverty” — had been added to the program from fiscal year 2025 to cultivate leaders in the field of water disasters, individuals capable of making decisions based on integrated scientific knowledge and cross-disciplinary cooperation. Three lecturers then followed, giving presentations centered on these themes.

Water and Sanitation: Professor FURUMAI Hiroaki of Chuo University's Research and Development Initiative discussed the relationship between human life, development, and the evolution of safe water supply, wastewater treatment and sanitation management alongside urbanization. He emphasized the importance of WASH (water, sanitation, and hygiene) in achieving SDG 6, including infrastructure development, protection and restoration of water resources and aquatic ecosystems, and hygiene education. He also pointed out the necessity of resilient water and sanitation measures to address issues such as floods and droughts induced by climate change, deteriorating water quality, and the increasing risk of infectious disease outbreaks.

Water and Peace (Water Security and War: Peacebuilding and Public Diplomacy): Jerome Delli Priscoli, the editor-in-chief of the Water Policy Journal, discussed how water has served as both a tool of war and a powerful medium for fostering cooperation and dialogue. Drawing on his experiences and examples such as peace negotiations in the Middle East, he emphasized that water-related issues are deeply intertwined with society and security and should be leveraged to generate peace and cooperation.

Water and Poverty: Professor KAWASAKI Akiyuki of the University of Tokyo explained how water-related disasters are closely linked to poverty. These disasters



Lecture by Prof. FURUMAI Hiroaki
古米 弘明教授による講義



Lecture by Jerome Delli Priscoli, the editor-in-chief of the Water Policy Journal
Jerome Delli Priscoli 編集委員長による講義

disproportionately affect vulnerable populations, leading to long-term social losses such as reduced educational opportunities. He stressed the importance of taking an interdisciplinary approach that integrates economics, engineering, and practical field implementation to understand the uneven distribution of poverty and flood risks and to utilize this knowledge to formulate policy and address inequality.



Lecture by Prof. KAWASAKI Akiyuki
川崎 昭如教授による講義

Panel Discussion “Toward Regional Cooperation in ITCZ”

This session aimed to explore new and effective approaches for international cooperation to enhance resilience against water-related disasters in regions where the water cycle is strongly influenced by the seasonal migration of the Intertropical Convergence Zone (ITCZ) and monsoons—factors that are major causes of heavy rainfall, flooding, and landslides. More specifically, the session sought to identify practical strategies and outline an effective implementation framework based on the Bandung Spirit, through presentations and discussions. Senior Researcher Miyamoto served as the moderator and provided an overview of this session, followed by five short presentations.

Anthony C. Sales, the regional director of the Department of Science and Technology (DOST) XI in the Philippines, introduced community-based disaster resilience initiatives in Davao City.

Kittisak Pitakwong, the director of river basin management division, sub-division 4 at Thailand’s Office of the National Water Resources (ONWR), reported on the flooding that occurred in Hat Yai in 2025, the response measures taken, and the Platform for Water Resilience and Disasters in Thailand.

Seenipellage Chaminda Sugeeswara, the additional secretary to the president of Sri Lanka and an alumnus of ICHARM’s educational programs, presented on a cross-sectoral platform for water-related disaster response in Sri Lanka.

Basara Betty Namulunda, a logistics officer and senior hydrologist & Water Related disaster reduction Specialist at the South Sudan Office of the United Nations World Food Programme (WFP) and an alumnus of ICHARM’s educational programs, provided insights into water-related disaster management in Kenya and regional cooperation in East Africa.

Andrea Mariel Juarez Lucas, a senior water resources management specialist at the World Bank and an alumnus of ICHARM’s educational programs, presented on drought risk and resilience in Central America.

In addition, Senior Researcher Miyamoto introduced the development of an integrated water information system within the Indonesia’s Ministry of Public Works, as well as their efforts to improve inter-agency interoperability and strengthen cross-sector collaboration.



Panel Discussion “Toward Regional Cooperation in ITCZ”
パネルディスカッション「熱帯収束帯における地域間協力に向けて」での討議

パネルディスカッション「熱帯収束帯における地域間協力に向けて」

本パネルディスカッションでは、赤道付近に形成される熱帯収束帯（ITCZ）の季節移動やモンスーンに強く依存した水循環が、豪雨・洪水・土砂災害の主要な発生要因となっている地域における、水災害レジリエンスのための国際協力の新たな効果的方策を模索しバンドン精神に基づいた効果的な実施枠組みを描くことを目的に、5題の話題提供及び議論が行われました。

最初に座長を務める ICHARM の宮本守主任研究員より、パネルディスカッションの趣旨説明を行った後、フィリピン科学技術省の Anthony C.Sales ダバオ地域局長より、ダバオ市での地域主体の防災レジリエンスに関する活動事例について紹介がありました。

続いて、タイ国家水資源局 Kittisak Pitakwong 河川流域管理第4課長より、昨年ハートサイで発生した洪水と対応、ならびに水災害レジリエンスに関するプラットフォームについて報告がありました。

次に、スリランカの Seenipellage Chaminda Sugeeswara 大統領付次官補（研修プログラム出身者）から、スリランカでの水災害対応のための分野横断的プラットフォームについて報告がありました。

また、世界食糧計画（WFP）南スーダン事務所の Basara Betty Namulunda ロジスティクス担当官／上級水文専門官（研修プログラム出身者）より、ケニアにおける水関連災害の管理と東アフリカにおける地域協力の話題提供がありました。

最後に世界銀行の Andrea Mariel Juarez Lucas 上級水資源管理専門官（研修プログラム出身者）から、中米における干ばつリスクとレジリエンスについて報告がありました。

加えて、宮本主任研究員よりインドネシア公共事業省における統合型水情報システムの開発、機関間の相互運用性の向上ならびに各分野の連携強化について紹介がありました。

参加者全員によるディスカッションでは、各地域で直面している地域社会への影響や住民への伝え方などの課題、また地域協力促進のためのデータや知見の共有の重要性、さらには意思決定における AI の可能性等について活発な討議がありました。

パネルディスカッション「水災害と衛生、貧困、平和」

本パネルディスカッションでは、博士課程の新講義の設計、運営や、現場での実践を通じて得られた経験や統合的な考えを基に、具体的な事例を交えながら今後のあるべき方向性を見出すため、政策研究大学院大学の廣木謙三名誉教授の司会の下、まず、パネリストから話題提供がありました。

最初に石渡幹夫明治大学特任教授より、紛争による水インフラの破壊と発展の阻害や、津波後のアチェで見られた水災害が平和の契機となった事例、日本における流域管理の経験について話題提供がありました。

次に、SORA Technologyの梅田昌季取締役より、ドローン・衛星・AIさらに水文モデルと組合せた予測システムによるアフリカでのマラリア等の流行事前把握等の対策の取組事例について紹介されました。

続いて、マレーシア公共事業省のNorain Binti Osman 技師（研修プログラム出身者）より、実地訓練、関係機関との連携により実践力を高める能力開発の紹介と、併せてデータの分断や政策の社会実装、人材流動性といった課題についても話題提供がありました。

さらにバングラデシュ水資源開発委員会のRahman Md Shahinur 上級技術者（研修プログラム出身者）からは、水災害による貧困の深刻化や悪循環、国際河川をめぐる水配分やデータ共有の問題の報告がありました。

最後にモロッコ国インフラ・水省のEl Hamri Fatima Ezzahra 技師（研修プログラム出身者）から、干ばつから短期間で豪雨へ転じた例の紹介や、老朽インフラと気候変動への適応、氾濫原における土地利用、さらに公平な水配分とインフラの整備の重要性について指摘がありました。

続いて、川崎昭如教授も加わり、登壇者全員で水・災害分野と開発分野の連携の重要性が議論されました。対話は可能であり、貧困削減の観点から水災害対策を開発の中核に位置づける必要があると指摘されました。また連携促進には、分野横断的な協働を導くリーダーシップ、政治的意思、持続可能な資金確保が鍵とされ、さらに被害軽減や経済効果を示すエビデンスの提示、民間資金の活用、透明な意思決定とデータ共有の重要性などが指摘されました。

Following the presentations, all speakers joined a panel discussion, during which lively exchanges took place on challenges such as impacts on local communities, effective ways of communicating risks to residents, the importance of sharing data and knowledge to promote regional cooperation, and AI's potential roles in decision-making processes.

Panel Discussion “Water Disaster and Sanitation, Poverty, Peace”

This session was moderated by GRIPS Professor Emeritus HIROKI Kenzo and joined by five speakers, including lecturers of the new courses recently added to the doctoral program at ICHARM. These speakers first presented on various topics to identify the ideal future direction to address the challenges highlighted in the session, drawing on concrete examples and insights gained from designing and managing the new doctoral courses and from personal experiences in respective areas of activity.

ISHIWATARI Mikio, a professor at Meiji University, discussed the destruction and stagnation of water infrastructure and disruption of development caused by conflict, the case of post-tsunami disaster in Aceh in Indonesia, where water-related disasters served as a catalyst for peace, and Japan's experience with basin-wide flood management.

UMEDA Masaki, the director, vice chief executive officer of SORA Technology, introduced part of their initiatives in Africa, such as the proactive monitoring of malaria outbreaks, using prediction systems that combine drones, satellites, AI, and hydrological models.

Norain Binti Osman, an engineer from the Malaysia Public Works Department and an alumnus of ICHARM's educational programs, described capacity-building efforts to enhance practical skills through field training and inter-agency collaboration, while also addressing challenges such as data fragmentation, policy implementation in society, and personnel mobility.

Rahman Md Shahinur, a executive engineer of the Bangladesh Water Development Board and an alumnus of ICHARM's educational programs, reported on how water-related disasters exacerbate poverty, creating a vicious cycle. He also discussed issues surrounding water allocation and data sharing for international rivers.

El Hamri Fatima Ezzahra, a former engineer of the Moroccan Ministry of Infrastructure and Water and an alumnus of ICHARM's educational programs, presented a case in which conditions rapidly shifted from drought to heavy rainfall. She also discussed issues related to aging infrastructure, climate change adaptation, floodplain land use, and equitable water allocation and infrastructure development.

After the presentations, the speakers, joined by Professor Kawasaki of the University of Tokyo, discussed the importance of collaboration between the water and disaster sectors and the development sector. They concluded that dialogue between these fields is possible and essential, and emphasized the need to prioritize water-related disaster countermeasures in development efforts, especially for poverty reduction. They also identified leadership that fosters cross-sectoral collaboration, political will, and sustainable funding as key elements for promoting cooperation. Additionally, they highlighted the importance of presenting evidence on damage mitigation and economic benefits, leveraging private-sector funds, ensuring transparent decision-making, and advancing data sharing.



Panel Discussion “Water Disaster and Sanitation, Poverty, Peace”
パネルディスカッション「水災害と衛生、貧困、平和」での討議

Panel Discussion “Future Prospect of Capacity Development”

This session was moderated by Executive Director Koike and featured five presentations followed by a panel discussion. The session aimed to clarify the future direction of human resource development—specifically, to cultivate leaders capable of driving an integrated approach to facilitating daily water use, water environment conservation, disaster risk reduction, and resilience enhancement, while recognizing the characteristics of and interconnections among these areas.

Distinguished Professor Levent Kavvas of the University of California, Davis, highlighted the need to understand quantity, flow, water quality, and the impacts of human activities to ensure sustainable water resource use amidst climate change. He also emphasized the importance of fostering a scientific mindset and a comprehensive understanding of the climate system.

GRIPS Professor CHIBANA Takeyoshi discussed the effectiveness of “sparking interest” and “experiential learning” in education, drawing on case studies and historical examples. Rather than merely transmitting knowledge, he stressed the importance of cultivating diverse response capabilities and fostering the flexibility needed to make sound judgments suited to specific situations.

SAITO Mitsunori, the director general of the Global Environment Department at JICA, introduced JICA’s international cooperation efforts—which combine “hard” measures such as infrastructure development with “soft” measures such as institutional and human-resource development—under the framework of “People, Prosperity, Peace, and Planet,” as well as their comprehensive capacity-building initiatives across individual, organizational, and national levels.

SAITO Keiko, a senior disaster risk management specialist at the World Bank Group, based in Tokyo, spoke about the importance of human resource development to support investment projects, citing examples of institutional design and local capacity development in countries such as India and South Sudan, in which ICHARM was also involved.

Abou Amani, the director of the UNESCO Water Sciences Division, introduced initiatives under UNESCO’s Intergovernmental Hydrological Programme (IHP), including the promotion of water sciences, capacity development, and policy support, and emphasized the importance of linking human resource development with the societal implementation of scientific findings and policy integration.

The panel discussion addressed capacity development that fosters a comprehensive understanding of challenges, interdisciplinary collaboration, and the autonomous advancement of capacity development. Participants highlighted the need for capacity development that enables a holistic grasp of water issues—grounded in an understanding of the global water cycle—and the need for integrated education that transcends sectoral silos. They also emphasized the importance of interdisciplinary collaboration based on the sharing of scientific data and a clear division of roles among diverse stakeholders. Furthermore, the promotion of autonomous capacity building—achieved by ensuring local ownership and implementing long-term, continuous learning and training programs for leaders—was identified as the key to ensuring sustainability.



Panel Discussion “Future Prospect of Capacity Development”
パネルディスカッション「能力開発の将来展望」での討議

パネルディスカッション「能力開発の将来展望」

本パネルディスカッションでは、日常の水利用、水環境保全、水災害のリスク軽減、およびレジリエンス向上を、各要素の特性やつながりを踏まえて統合的に進めることをリードする人材の育成の今後の方向性等を明らかにすることを目的として、小池俊雄センター長の司会の下、5つの話題提供とディスカッションが行われました。

最初にカリフォルニア大デービス校の Levent Kavvas 卓越教授から、気候変動下における水資源の持続的利用のための量・流れ・水質、人間活動の影響把握の必要性、ならびに統合的な気候システム理解と科学的思考の育成の重要性の指摘がありました。

次に、GRIPS の知花武佳教授から、教育における「興味を引くこと」と及び「体験」の効果や、単なる知識伝達ではなく状況に応じて判断できる柔軟性を育むためには、事例や歴史を通じた多様な対応力を養うことの重要性が述べられました。

続いて、(独) 国際協力機構 (JICA) の斎藤光範地球環境部長から、「人・繁栄・平和・地球」の枠組みのもと、JICA におけるインフラ整備などのハード面と制度・人材育成などのソフト面を組み合わせた国際協力、ならびに個人・組織・国家の3層での包括的な能力強化について紹介があり、さらに世界銀行東京防災ハブの齋藤恵子シニア防災専門官から、インドや南スーダンにおける制度設計や現地人材育成の経験を踏まえ、融資事業の持続的な成果を支える能力開発の重要性について紹介がありました。

最後にユネスコの Abou Amani 水科学部長から、ユネスコの政府間水文学計画 (IHP) における、水科学の推進、能力開発、政策決定支援の取り組みの紹介があり、人材育成と科学成果の社会実装、政策との連携強化の重要性について指摘がありました。

ディスカッションでは、課題を包括的に捉える能力開発、分野間連携、能力開発の自立的推進について議論され、水問題への対応における、地球規模の水循環を踏まえた包括的理解を可能とする能力開発、分野間で分断されない統合的教育の必要性とともに、多様な関係者の役割分担や科学データの共有を基盤とした分野間連携の重要性が指摘されました。さらに、主体性の確保、長期的・継続的学習や指導者を育成する研修などを通じた自立的な能力開発の推進が持続性確保の鍵とされました。

Statement（実行戦略）の提示

本セッションでは、シンポジウムでの議論等を踏まえ、今後のICHARMの取り組みの方向性を取りまとめたStatementが提示されました。具体的には、

1. 分野横断的な科学的知見と経験知の統合・共有を図る仕組みの構築
2. 直接的な利益・損失だけでなく、経済波及効果や潜在的負担も含めて定量化・可視化する科学の推進
3. 科学と政策の接点 (science-policy interface) を強化するための能力開発支援および、地域・国家・広域レベルで自主的に能力向上が可能となる仕組みの構築

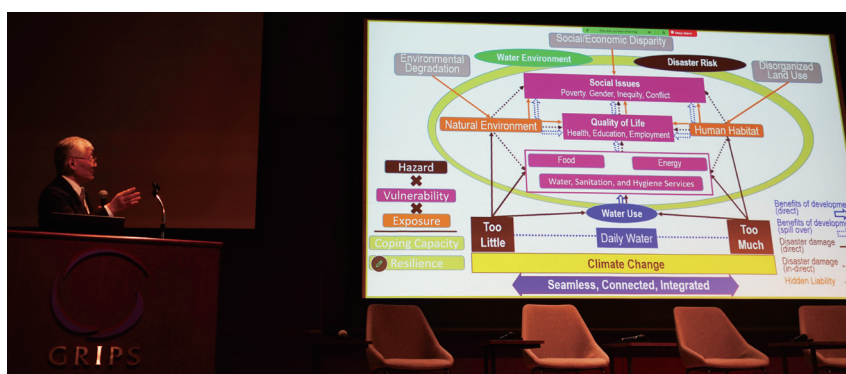
に関する取り組みが掲げられるとともに、これらを広く展開するため、現在 ICHARM が国際洪水イニシアチブ (IFI) の事務局として各国で展開している「水レジリエンスと災害に関するプラットフォーム」事業を拡大し、水関連分野のすべての関係主体が参加する具体的な取り組みを開始することなどが挙げられました。

Adoption of Statement

The Statement outlining the future direction of ICHARM's initiatives was prepared based on the discussions held during the symposium. The Statement presented the following three key actions:

- Development of a system for integrating and sharing scientific and experiential knowledge across various fields, connecting everyday life with extreme events, and enabling all stakeholders to reflect this knowledge in their actions.
- Promotion of science that quantifies and visualizes not only direct benefits and harms but also economic spillover effects and hidden liabilities.
- Support for capacity development to promote the science-policy interface, as well as the creation of systems that enable communities, countries, and regions to implement capacity building independently.

To broadly implement these actions, the Statement also proposed expanding the "Platform on Water Resilience and Disasters" project, currently being implemented in various countries by ICHARM as the secretariat of the International Flood Initiative (IFI), through which concrete actions involving all stakeholders in water-related fields will be put into practice.



Executive Director KOIKE presents the statement.
Statement（実行戦略）を発表する小池センター長

(Written by FURUMOTO Kazushi)

The 18th Follow-up Seminar for ICHARM alumni**修士・博士課程卒業生・在校生向けの第18回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、延べ226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回フォローアップセミナーを開催しています。

第18回目となる今回は、宮本守主任研究員 (GRIPS 連携教授) の総合司会のもと、6月中旬の ICHARM20 周年イベントの一環で開催されるハイブリットのフォローアップセミナー (6月18日開催) を見据えて、3月24日に開催した第7回アルムナイ・ウェビナーをホップとすると、今回はホップステップジャンプのステップの位置づけとして、オンラインで5月13日に開催しました。18か国から62名が参加しました。

冒頭に、清水義彦研究・研修指導監から、6月18日に ICHARM20 周

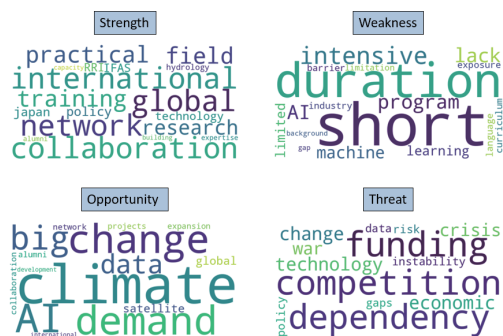
ICHARM, in collaboration with the National Graduate Institute for Policy Studies (GRIPS) and the Japan International Cooperation Agency (JICA), offers a master's program, "Water-Related Disaster Risk Management Course of Disaster Management Policy Program," and a doctoral program, "Disaster Management Program." Since their start, these programs have produced a total of 226 graduates. As a follow-up activity for these alumni, ICHARM has been holding the Follow-up Seminar annually since 2007.

The 18th Follow-up Seminar was held online on May 13, 2026, moderated by Senior Researcher MIYAMOTO Mamoru. The seminar was attended by 62 participants from 18 countries. Since a hybrid follow-up seminar was scheduled for June 18 as part of the ICHARM 20th anniversary events, the May seminar was regarded as the second step towards the June event, following the 7th Alumni Webinar held on March 24, which was considered the first step.

At the beginning, Research and Training Advisor SHIMIZU Yoshihiko explained that the hybrid follow-up seminar to be held in June would aim to envision the future of ICHARM's educational programs, and that preparations for it had been underway since the alumni webinar in March.

During the seminar, Senior Researcher USHIYAMA Tomoki first delivered a presentation on future strategies for ICHARM's educational programs. Prior to the seminar, he conducted a questionnaire survey among graduates, asking about the programs'

Word cloud



A visualized image showing which words were frequently used
どのような単語がよく利用されたかを可視化したイメージ図

Strategy (TOWS)

- **Straightforward:**
 - Lack of AI, technology update ⇒ Introduce AI
 - Increase competition, limited recognition ⇒ Alumni network, increase global awareness
 - Underutilization of graduates' skills ⇒ follow up system, project collaboration
- **Tradeoff:**
 - Multicultural learning environment ⇔ Diverse students background (Level, research field)
 - Short and intensive course ⇔ One year leave and back to organization soon
 - Small-scale programs ⇔ High specialized flood disaster management under climate change

Strategy outlining the Strength, Weakness, Opportunity and Threat

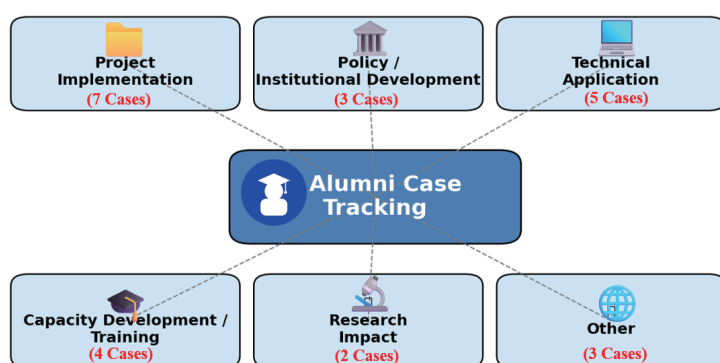
プログラムの長所、短所、機会、脅威についてまとめた将来戦略

strengths, weaknesses, opportunities, and threats, and received responses from 37 alumni. Based on these results, he grouped the proposed future strategies into two broad categories: those that can be pursued straightforwardly (e.g., incorporation of AI technology) and those involving trade-offs (e.g., short-term sessions that allow participants to return to work quickly but may be insufficient for acquiring adequate knowledge and skills).

Next, Research Specialist Shrestha Badri Bhakta presented alumni's success stories. He collected 24 cases and categorized them into six groups. Based on this analysis, proposals were made regarding the future of ICHARM. Then, from these 24 cases, the following two cases were presented.

- ▶ **One of the National Validators of the GAWAD KALASAG from year 2022 to 2024**
- GAWAD KALASAG is the Philippines premier annual award system recognizing excellence in DRRM and humanitarian assistance
(SHEILA JOY L. GO-OC ABDON, PHILIPPIN)
- ▶ **Practical application of ICHARM's interdisciplinary approach in various sectors in Peru**
(Jhon Alex Bautista Mejía, PERU)

ICHARM Alumni Case Tracking



Comprehensive Framework for Alumni Experience Tracking and Institutional Impact

- ❖ Knowledge, technical skills, and professional values acquired through ICHARM's Master's and PhD programs have been applied in various sectors

Alumni Case Tracking
卒業生の成功事例収集

Finally, Executive Director KOIKE Toshio expressed his gratitude to the graduates and faculty members who had conducted the analysis and preparations up to this point. He then shared the encouraging remarks he received during his meeting with the vice-minister for engineering affairs of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and the president of GRIPS. He noted that both expressed high expectations for the contributions of the 226 ICHARM graduates from 41 countries, given the recent increase in severe water-related disasters around the world. He also conveyed to the alumni that the GRIPS president had referred to them as "treasures of the world."

(Written by FUJIKANE Masakazu)

年に合わせて開催するハイブリットのフォローアップセミナーは、ICHARMの教育プログラムの将来像を描くことが目的であること、それに向けて、3月のアルumnaiウェビナーから準備を進めていることについて説明がありました。

まず初めに卒業生による本プログラムの客観評価を行いそこから将来戦略を考えることとし、牛山朋来主任研究員（GRIPS 連携教授）より、SWOTつまり、本プログラムの長所（Strength）、短所（Weakness）、機会（Opportunity）、脅威（Threat）について事前にアンケートを卒業生に対して行い、37名から回答があったことの説明がありました。そして、将来戦略として、素直に進めていけばいい項目（Straightforward）（例えばAI技術の導入など）と、トレードオフが生じる項目（例えば短期集中型のコースについて、早く職場復帰が可能というメリットと期間が短すぎるというデメリットがあるなど）が示されました。

次に、これまでの卒業生の成功事例収集（Alumni Tracking）についてシェレスバドリアクタ専門研究員（GRIPS 連携教授）より紹介がありました。24の事例が収集され6つに分類分けが行われました。これらの分析から将来のICHARMの姿について提案がなされました。そして、この24の事例のなかから、以下の2つの事例について発表がありました。

・2022年から2024年の間、GAWAD KALASAG 賞制度の国家認定審査員を務めた事例（GAWAD KALASAGとは、フィリピンにおける災害リスク軽減管理（DRRM）と人道支援における卓越性を表彰する、最高峰の年間賞制度）（SHEILA JOY L. GO-OC ABDON氏、フィリピン）

・ペルーの様々な分野におけるICHARMの多分野にまたがるアプローチの実践的応用事例（Jhon Alex Bautista Mejía氏、ペルー）

最後に小池俊雄センター長より、これまでの分析、準備をしてきた卒業生、教員に対して感謝の意が示され、さらに、国土交通省技監とGRIPS学長両者から、世界で激甚な水災害が多発している昨今、この41か国226名のICHARM卒業生の活躍に大変期待していること、またGRIPS学長からは、卒業生は「世界の宝である」という言葉をいただいたことが紹介されました。

The 19th Follow-up Seminar for ICHARM alumni

修士・博士課程卒業生・在校生向けの第19回フォローアップセミナーを開催

6月18日13:30からICHARM講堂にて、ICHARM20周年イベントの一環として第19回フォローアップセミナーがハイブリット形式で開催されました。今回は前日のシンポジウムでの講師やパネリスト、当日午前に開催されたICHARM R&Dセミナーの講師、修了生13名を含む18カ国62名が会場にて参加し、オンラインで34名の参加がありました。

1. 開会式

開会に当たり、ICHARM アルムナイメンバーでもある板垣修グループ長より、自身の博士課程での経験と、国が主導する遊水地整備事業の現地責任者としての経験との関わりが紹介され、ICHARM で得た経験を現実世界の諸問題の解決に活かしていく一つ一つの、目指す人物像に向かって成長し続けることであるというメッセージがありました。

また、清水義彦研究・研修指導監から、気候変動をはじめ私たちを取り巻く世界が急速に変化する中、ICHARM は今、教育や教育プログラム、そして教育・研究のあり方を見直す必要があり、本企画がICHARM の教育プログラムの将来像の描くことを目的しているとの説明がありました。

2. 招待講演

まずカリフォルニア大デービス校 Levent Kavvas 卓越教授から、アゼルバイジャンの首都バクーで得られた約170年分のカスピ海海面水位記録から将来の水位変化の統計的に予測する研究が紹介されました。ここでは、長期依存性 (long-range dependence) と傾向 (trend) の双方を把握するために自己回帰実数分移動平均 (AutoRegressive Fractionally Integrated Moving Average, ARFIMA) モデルが適用され、適用に当たって変化する傾向の確定の必要性が示されました。

フィリピン科学技術省第11地域局 Anthony Sales 局長からは、政府、学術界、市民社会、メディア、産業界の5つのセクターからなる「HELP Davao Network」によるSDGs達成のためのスコアカードを導入・運用や、統合的水資源管理 (IWRM) の推進などの活動の紹介がありました。さらに、知の統合、ファシリテーターの育成、データインフラの整備、多様な関係者間の連携など、将来進むべき方向性が示されました。

The 19th Follow-up Seminar took place at 13:30 on June 18 in a hybrid format at the ICHARM Auditorium, as part of ICHARM's 20th-anniversary events. The event drew 62 in-person participants from 18 countries and 34 online participants. The participants at the venue included speakers and panelists from the previous day's symposium, a speaker from the ICHARM R&D seminar held that morning, and 13 graduates of ICHARM's educational programs.

1. Opening

At the opening, Deputy Director ITAGAKI Osamu, who is also a graduate of the doctoral program, shared insights drawn from his experiences during his doctoral studies and his past work as the on-site manager of a national flood retention basin development project. He conveyed the message that applying the knowledge gained at ICHARM to solve real-world problems is, in itself, a continuous process of sustained personal growth towards the ideal professional he aspires to be.

Research and Training Advisor SHIMIZU Yoshihiko also shared his views on ICHARM's educational activities, explaining that, in a rapidly changing world driven by factors such as climate change, ICHARM needs to re-examine its educational offerings, programs, and overall approach to education and research, and he expressed hope that the 19th Follow-up Seminar would help envision the future direction of ICHARM's educational programs.



Deputy Director Itagaki (Left) and Research and Training Advisor Shimizu (Right)
板垣グループ長 (左) と清水研究・研修指導監 (右)

2. Invited Lectures

The 19th Follow-up Seminar invited two lecturers: Distinguished Professor Levent Kavvas from the University of California, Davis, and Director Anthony Sales of the Department of Science and Technology (DOST) Region XI in the Philippines.

First, Distinguished Professor Kavvas presented research on statistically predicting future fluctuations in the Caspian Sea's water level, based on approximately 170 years of records obtained in Baku, the capital of Azerbaijan. The study employed an AutoRegressive Fractionally Integrated Moving Average (ARFIMA) model to capture both long-range trends and dependencies, highlighting the necessity of accurately determining the changing trends during the model's application.

Next, Director Sales introduced the activities of the "HELP Davao Network"—a coalition comprising government, academia, civil society, the media, and industry sectors—including the implementation and operation of a scorecard for achieving the SDGs and the promotion of Integrated Water Resources Management (IWRM). He further outlined the future direction to be pursued, emphasizing the integration of knowledge, the development of facilitators, the establishment of data infrastructure, and collaboration among diverse stakeholders.



Distinguished Professor Kavvas (Left) and DOST Director Anthony Sales (Right)
Kavvas 卓越教授 (左) と DOST 局長 Anthony Sales 氏 (右)

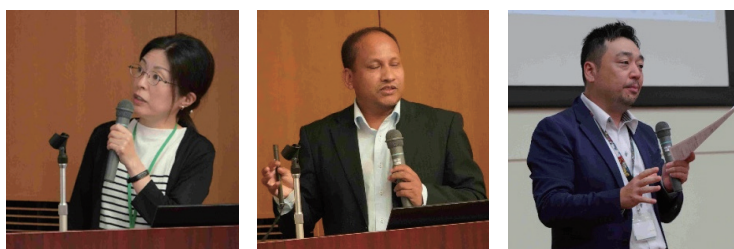
3. Three-step preparation

ICHARM aimed to discuss the future direction and nature of its educational activities at the 19th Follow-up Seminar and took three steps to prepare for the seminar: "objective evaluation," "case collection," and "future strategy."

First, Research Specialist NAGUMO Naoko, who is also an adjunct associate professor at the National Graduate Institute for Policy Studies (GRIPS), presented the results of a SWOT analysis based on a survey of alumni conducted for objective evaluation. She reported three key areas for the future evolution of ICHARM's educational programs: "AI technology," "practical application," and "globalization."

Next, Research Specialist Badri Shrestha, who is also an adjunct associate professor at GRIPS, reported the results of the "alumni case tracking" survey. He explained that the cases and activities experienced by alumni were categorized into "project implementation," "policy and institutional development," "technological application," "capacity development and training," "research impacts," and "others," and presented examples of the outcomes achieved. He also highlighted suggestions from alumni, such as including new technologies and advanced digital technologies in practice, strengthening collaboration and networking, and enhancing policymaking.

Finally, Senior Researcher MIYAMOTO Mamoru, who is also an adjunct professor at GRIPS, introduced three specific action proposals from the draft statement presented at the conclusion of the previous day's symposium: 1) developing a system to integrate and share knowledge and supporting its translation into action; 2) quantifying and visualizing direct and indirect benefits, damages, ripple effects, and potential liabilities; and 3) establishing a system that enables autonomous capacity building.



(From the left) Research Specialist Nagumo, Research Specialist Shrestha and Senior Researcher Miyamoto
(左から) 南雲専門研究員、シェレスサ専門研究員、宮本主任研究員

4. Proposals from Alumni

Seven alumni shared valuable insights based on their experiences with the ICHARM community, including its alumni.

Dr. HISHINUMA Shiro (Japan) made three suggestions: 1) the importance of O&M (Operation and Maintenance) as the foundation of sustainability and resilience; 2) leadership is required of all stakeholders; and 3) enjoying learning and capacity development while keeping up with the latest trends. As concrete examples, he introduced the application of a disaster risk management framework to cyber incidents, and digital service operations built on AIOps, which defines the appropriate roles of AI and humans.

Ms. RANAPURA DEWAGE Thilini Kaushalya (Sri Lanka) emphasized the importance of cultivating "change agents" — individuals who can connect science, policy, and practice — in order to translate scientific knowledge into action by influencing policy decisions, leading implementation efforts, and strengthening collaboration across sectors. To achieve this, she proposed four specific actions: 1) strengthening collaboration between ICHARM and the alumni's affiliated organizations; 2) providing post-research implementation support through continuous guidance from ICHARM and organizational backing from the affiliated institutions; 3) establishing an "alumni knowledge exchange platform"; and 4) promoting the visible and impactful dissemination of scientific findings through publications, policy briefs, and technical guidelines.

3. 三段階の準備

次に本フォローアップセミナー開催の準備として、ICHARM の今後の教育のあり方や方向性を議論するために実施された「客観評価」、「成果収集」、「将来の戦略」という3つのステップが紹介されました。

まず、南雲直子連携准教授より「客観評価」のための修了生へのアンケート調査に基づくSWOT分析の結果が示され、ICHARM の教育プログラムの次なる進化の方向性として、「AI（技術活用）」「実践（実務重視）」「グローバル化」の3点が報告されました。

次に Badri Shrestha 連携准教授より「修了生の追跡調査（アルムナイ・トラッキング）」の結果が報告され、修了生の活動は「プロジェクト実施」、「政策・制度の構築」、「技術の適用」、「能力開発・研修」、「研究の波及効果」、並びに「その他」に分類され、具体的な成果事例が紹介されました。さらに、実務への新技術や高度なデジタル技術の導入、連携・ネットワークの強化、政策への拡張といった卒業生からの提案も強調されました。

最後に宮本守連携教授より、前日のシンポジウムで示された Statement 案における3つの具体的な行動提案、すなわち 1) 知の統合・共有するシステムの開発と行動への反映支援、2) 直接・間接の利益と被害、波及効果、潜在的負債の定量化・可視化、3) 能力開発を自主的に実施できるシステムの構築、が紹介されました。

4. 修了生からの提言

アルムナイを含む ICHARM 全構成員に対して、7名の修了生よりそれぞれの経験に基づいて貴重な示唆を頂きました。

菱沼 志朗氏（日本）は、1) サステナビリティとレジリエンスの根幹としてのO&M（運用・保守）の重要性、2) リーダーシップは全ての関係者に求められること、3) 学びと能力開発を楽しみ、最新トレンドをキャッチアップし続けること、の3点を提言しました。実例として、災害リスク管理の枠組みのサイバーインシデントへの適用や、AIと人間の役割分担を前提としたAIOpsに基づくデジタルサービスの運用が紹介されました。

RANAPURA DEWAGE Thilini Kaushalya 氏（スリランカ）は、知識を行動へと迅速に移すために、科学、政策、そして実践の各領域をつなぎ、変革を推進する「チェンジ・エージェント（変革の担い手）」の育成が重要と指摘しました。その上で、1) ICHARM と修了生所属機関との連携強化、2) ICHARM からの継続的な指導と所属機関からの組織

的支援を通じた研究後の実施段階支援、3)「同窓生知識交流プラットフォーム」の構築、4) 出版物、政策提言（ポリシーブリーフ）、技術ガイドラインなどを通じた科学的知見の普及と広範な情報発信の推進、という具体的な4つの行動が提案されました。

Sanjeewa Punsiri Bandara Illangasingha 氏（スリランカ）は、2025年のサイクロン「ミディリ」から得た教訓を基に、3つの優先事項、すなわち、1) 科学的知見、実務経験、地域固有の知識の強力な統合、2) デジタルツールなどの科学技術の積極的活用、3) 研究者、実務家、政策立案者の間での緊密な連携を進める能力開発、を提案しました。さらに変化する地球規模課題に対して進化するために、アルムナイネットワークを含む国際的「パートナーシップ」の強化の必要性を強調しました。

ROGO Allen 氏（フィリピン）は、実務の現場で予測業務やモデルの活用の経験から、差し迫った洪水に備えて一般向けに発令する「洪水準備情報」や、人々にとってより視覚的で人々の具体的な行動を促すリスク・コミュニケーションを ICHARM のプログラムに加えるべきと提案しました。

Nikola ZLATANOVIC 氏（セルビア）は20周年記念のイベントを通して、自身の2つの気づきを紹介してくれました。一つは ICHARM の修了生自身皆が意思決定者であるという認識です。科学的な専門性を持ちつつ、ICHARM での学びを自国で実践する責任があるということです。第二の知見は、専門家同士の交流の場の必要性です。それは、公式な場としての側面とリラックスした雰囲気が調和した集まりであり、修了生が専門的な対話を楽しみ、経験を共有し、互いにつながりを築くための空間が必要とすることです。

CABALLERO FIGUEROA Eduardo José 氏（ホンジュラス）は、自国のスラ溪谷を事例に、科学的根拠を確実に計画や予算に反映させて「予防」を強化する必要性を説明しました。その具体的方策として、同地にトレーニング拠点を設け、指導者と実務家が互いに学び合う短期コースを提案し、修了生同士を再びつなげたピア・メンタリング（仲間同士の指導・助言）を行うなど、オンラインと対面を組み合わせた学習（ブレンデッド・ラーニング）を取り入れる工夫を提案しました。

Robin Kumar Biswas 氏（バングラデシュ）からは、自国の河川管理の難しさ、平面形状・洪水水位・生物環境を変えない原則の下での「有効河川幅」や「河道整正線」の設定に関する説明がありました。その上で、パートナーシップ主導の取り組みを進め、多角的な視点を基に研究成果を実行可能な対策へと結びつけ、投資の意思決定を支援することの重要性が強調され、選択肢としてデモンストレーション流域を設定した取り組みが提案されました。

Drawing on lessons learned from Cyclone Midhili in 2025, Dr. Sanjeewa Punsiri Bandara Illangasingha (Sri Lanka) proposed three priorities: 1) the strong integration of scientific knowledge, operational experience, and local knowledge; 2) the active use of science and technology, including forecasting systems, artificial intelligence, and digital tools; and 3) capacity building to foster close collaboration among researchers, practitioners, and policymakers. He further emphasized the need to strengthen international partnerships—including ICHARM alumni networks—to evolve in response to changing global challenges.

Drawing on her practical experience with forecasting and model application, Ms. Allen Orogo (Philippines) proposed incorporating two elements into ICHARM's programs: "Preparatory Flood Information," which would be issued to the public in anticipation of imminent flooding, and risk communication designed to trigger action and be more visual.

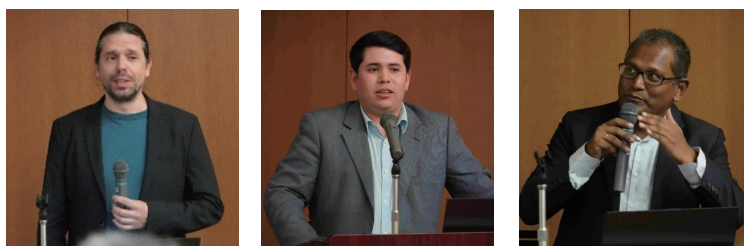


(From the left) Dr. Hishinuma Shiro, Ms. Ranapura Dewage Thilini Kaushalya, Dr. Sanjeewa Punsiri Bandara Illangasingha and Ms. Allen Orogo
(左から) 菱沼 志朗氏、RANAPURA DEWAGE Thilini Kaushalya 氏、Sanjeewa Punsiri Bandara Illangasingha 氏、OROGO Allen 氏

Mr. Nikola Zlatanovic of Serbia shared two key insights from the 20th anniversary event. First, a recognition of the fact that ICHARM alumni are all decision-makers, and even though most lean on the scientific side, it is their responsibility to try to implement best experiences learned at ICHARM in their respective home countries, where applicable. The second insight is the emphasis of the need for professional exchange events, gatherings that strike a balance between formality and a relaxed atmosphere, providing a space for alumni to enjoy professional dialogue, share experiences, and connect with one another.

Mr. Eduardo José Caballero Figueroa (Honduras) explained the need to strengthen "prevention" by ensuring that scientific evidence is incorporated into planning and budgeting, citing the Sula Valley in his home country as a case study. As a concrete measure, he proposed a Sula Valley training hub offering short courses where teachers and practitioners could learn from each other. The hub would reconnect ICHARM alumni for "peer mentoring" and "online blended learning" to reach busy professionals and fill the gaps left by the basic curriculum.

Dr. Robin Kumar Biswas (Bangladesh) explained the challenges of river management in his country. He discussed establishing "effective river width" and "river training lines" based on the principles of no change in planform characteristics, flood levels, or habitat character. Emphasizing the importance of partnership-driven initiatives that translate research findings grounded in diverse perspectives into actionable measures to support investment decisions, he proposed an approach utilizing demonstration river basins as a viable option.



(From the left) Mr. Nikola Zlatanovic, Mr. Eduardo José Caballero Figueroa and Dr. Robin Kumar Biswas
(左から) Nikola ZLATANOVIC 氏、CABALLERO FIGUEROA Eduardo José 氏、Robin Kumar Biswas 氏

5. Panel Discussion

Following the presentations by the seven graduates, Dr. Jerome Delli Priscoli, the editor-in-chief of the Water Policy Journal, took the podium. He first expressed his gratitude for the opportunity to participate in the events commemorating ICHARM's 20th anniversary and then shared insights he had gained throughout his career. He drew parallels between ICHARM and the U.S. Army Corps of Engineers' Institute for Water Resources (IWR), where he had served for 40 years. He highlighted how IWR evolved in its mission as an interdisciplinary organization by incorporating public involvement, conflict management, collaborative problem solving, natural sciences, water engineering problems, and economic issues. He explained that their success stemmed from tackling the challenge of integrating these diverse fields and establishing frameworks for "collaborative modeling" and "collaborative problem-solving." Key factors in this success included fostering a sense of ownership among all involved—ensuring they felt their own "fingerprints" were left on the work—as well as adding "process tools and techniques" into the curriculum and addressing real-world problems directly through integrated approaches.

Next, the panelists, the seven alumni who spoke previously, shared their perspectives on the nature of the science-policy interface. Dr. Hishinuma Shiro (Japan) defined it as the process of generating evidence through scientific approaches to support science-based policymaking. Dr. Robin Kumar Biswas (Bangladesh) pointed out that policies lacking a scientific perspective could lead to greater disaster impacts and enormous costs. Ms. Allen Orogo (Philippines) argued that the interface involves sharing practical catalysts that influence human behavior beyond the policy framework. This means providing information that people can use in daily life and that triggers appropriate action when facing imminent threats. Mr. Eduardo José Caballero Figueroa (Honduras) noted that facilitators must consider societal needs and identify which local and indigenous capacities should be integrated into concrete disaster mitigation measures. Mr. Nikola Zlatanovic (Serbia) emphasized the need for persistent engagement, given the reality that while science advances continuously, policy often lags behind. Dr. Sanjeewa Punsiri Bandara Illangasingha (Sri Lanka) asserted that ICHARM alumni serve as ambassadors bridging science and policy in their home countries. He stressed the importance of advocating within their own organizations to raise awareness of research findings and local realities.

6. Wrap-up

To wrap up the 19th Follow-up Seminar, Executive Director KOIKE Toshio summarized the seminar. He proposed incorporating an emphasis on evidence and a continued commitment to ongoing collaboration among alumni into the draft symposium statement, and this proposal received the participants' endorsement.



Participants in the 19th follow-up seminar
第19回フォローアップセミナーの参加者

(Written by FUJIKANE Masakazu)

5. パネル討議

この7件の修了生からの発表に対し、まず Water Policy Journal の Jerome Delli Priscoli 編集委員長より、ICHARM20 周年記念事業に参加できたことに対する謝意が示され、ご自身が40年間在籍した米国陸軍工兵隊水資源研究所 (Institute for Water Resources) との類似性を指摘されました。当初エンジニア中心でスタートした研究所が、学際的な組織を目指して、経済学、社会科学、自然科学を加え、「これらすべてをどう統合するか」という課題に取り組み、「協働モデリング」や「協働による問題解決」という枠組みを構築していったという点です。その過程で関わったすべての人々が「自分たちのものだ」という当事者意識（自分たちの「指紋」が残っているような感覚）を持てるようにし、カリキュラムに「プロセス・ツールや手法」を組み込んだことと、現場の問題に対して直接的に統合に取り組んだことが成功の秘訣であると教授いただきました。

続いて、科学と政策のインターフェースとは何かについて、パネリストから考えが提示されました。菱沼 志朗氏は、科学的根拠に基づく政策立案 (science-based policymaking) のためのエビデンスを、科学的アプローチを通じて用意することであると答えました。Robin Kumar Biswas 氏は、科学的な視点を欠いた政策では、現状よりも多くの災害を招くなど、莫大な費用がかかる可能性があることも指摘しました。OROGO Allen 氏は、実際の生活の中で活用され、差し迫った脅威に直面した際、適切な行動をとるためのトリガーとなる情報を提供することで、政策という枠組みを超えて、人々の行動を促す現実的なきっかけを共有することと主張しました。CABALLERO FIGUEROA Eduardo José 氏は、ファシリテーターとして社会的なニーズを考慮しつつ、具体的な被害軽減策にどのような地域固有の能力（インディジナス・キャパシティ）を組み込むべきかを見極めることであると指摘しました。Nikola ZLATANOVIC 氏は、科学は絶えず進歩しますが政策はそれほど進んでいない現状を踏まえ、とにかく粘り強く働きかけ続けることであると強調しました。Sanjeewa Punsiri Bandara Illangasingha 氏は、ICHARM で学んだ学生は自国における「科学と政策の架け橋」となる大使でもあり、自らの組織に対して、研究内容や自国の実情への意識を高めるよう働きかける必要性を主張しました。

6. まとめ

セミナーの取りまとめとして登壇した小池俊雄センター長は、Statement 案にエビデンスを強調すること、アルムナイが連携し継続的に協働することを挿入することを提案し、参加者より賛同を得ました。

Publication of "ICHARM 20th Anniversary Commemorative Volume" 「ICHARM 20 周年記念誌」の発行

(土木研究所藤田光一理事長の巻頭言から抜粋)

ICHARM は、日本国政府とユネスコの協定に基づき、2006 年 3 月に土木研究所に設立されました。爾来 ICHARM は、土木研究所に欠かさないセンターとして、水災害の予防と軽減に資する活動を、〔革新的な研究〕〔効果的な能力育成〕〔効果的な情報ネットワークの構築〕を三本柱として精力的に行ってきました。このたび、10 周年記念誌（2016 年刊行）に示した蓄積の上に展開された直近 10 年間の活動を総括する本記念誌を刊行することとなりました。ICHARM の活動に多大なるご支援をいただいた関係の皆様は改めて厚く御礼申し上げます。

この 20 年、世界において—日本も例外ではなく、水に関わる極端事象が増加基調の中で頻発し、被害も深刻化しています。そして、水関連災害を予防・軽減する総合的方策の継続的実行が必須との認識が世界的に共有されるようになりました。この画期にあって、ICHARM がなすべき貢献は今後さらに大きくなります。

ICHARM が次の 10 年に向けて進むべき道を皆様とともに考える礎に、この記念誌がなることを願っています。

目次構成は以下の通りです。また、ICHARM 運営理事会の各委員、ICHARM の活動に深く関わった OB や卒業生からもメッセージを頂きました。改めてお礼申し上げます。

20 周年記念シンポジウムを機に、暫定版は既に以下のサイトで公開しています。

(日本語版)

https://www.pwri.go.jp/icharm/publication/pdf/2026/20th_anniversary_j.pdf

20 周年記念シンポジウムの成果などを含めた完成版は、8 月上旬をめどに、ICHARM Web 上で公開の予定です。

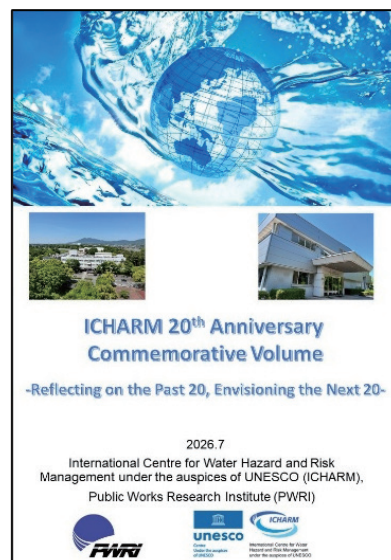
(Citation from the Preface by PWRI President FUJITA Koichi)

The International Centre for Water Hazard and Risk Management (ICHARM) under the auspices of UNESCO was established at the Public Works Research Institute in March 2006 based on an agreement between the Japanese government and the United Nations Educational, Scientific and Cultural Organization (UNESCO). Since then, ICHARM has served as an indispensable center within PWRI, vigorously pursuing activities that contribute to the prevention and mitigation of water-related disasters, grounded in its three pillars: innovative research, effective capacity development, and efficient information networking.

Building on the achievements presented in the 10th anniversary volume published in 2016, we are now pleased to issue this 20th anniversary commemorative volume, which summarizes the developments and accomplishments of the most recent decade. I would like to take this opportunity to express my sincere gratitude to all those who have extended their generous support to ICHARM's activities.

Over the past twenty years, extreme water-related events have been increasingly frequent in many parts of the world, including Japan, with the resulting damage becoming ever more severe. Today the international community has reached a shared understanding that it is essential to continuously implement comprehensive measures in order to prevent and reduce water-related disasters. At this critical juncture, the global role of ICHARM will only continue to grow in significance.

It is my hope that this commemorative volume will serve as a foundation for reflecting together on the direction ICHARM should pursue in the coming decade.



Content of the ICHARM 20th Anniversary Commemorative Volume ICHARM 20 周年記念誌 目次

Part 1: Reflecting on the Past 20 in ICHARM / 第 1 部 ICHARM 20 年の歴史を振り返る
1. ICHARM History -Reflecting on the Past 20, Envisioning the Next 20-
2. ICHARM Programme
3. Management / ICHARM の運営
4. Innovative Research / 革新的な研究
5. Effective Capacity Development / 効果的な能力育成
6. Efficient Information Networking / 効率的な情報ネットワーク
7. Local Practices / 現地実践活動
8. Public relations & Outreach / 広報・アウトリーチ
9. Awards / 表彰
10. Evaluation / 評価
Part 2: Envisioning the Next 20 in ICHARM / 第 2 部 ICHARM これからの 20 年に向けて
1. ICHARM Future Vision ICHARM 20→30
2. New courses added to the doctoral program -"Water and Sanitation," "Water and Poverty," and "Water and Peace" / 博士課程新コース創設 -「水と衛生」、「水と貧困」、「水と平和」-
3. ICHARM 20-year Anniversary Symposium / ICHARM20 周年記念シンポジウム
4. Follow-up Seminar / フォローアップセミナー
5. ICHARM Statement

参加登録フォームへのリンク

https://www17.webcas.net/form/pub/bosai/jhop_0826

プログラム 下記サイトをご覧ください

<https://www.scj.go.jp/ja/event/2026/399-s-0826.html>

Audience: Open to all

Participation Fee: Free

Language: Japanese only

How to Register: Please register in advance via the link below.

(Registration Deadline: Wednesday, August 19, noon)

Link to Registration Form:

https://www17.webcas.net/form/pub/bosai/jhop_0826

Program: Please see the following site for details

<https://www.scj.go.jp/ja/event/2026/399-s-0826.html>

(Written by KURIBAYASHI Daisuke)

● Public Relations

The 75th and 76th ICHARM R&D Seminar

第 75 回・第 76 回 ICHARM R&D セミナーの開催

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)」を定期的に開催しています。本稿では、4 月及び 6 月に開催された第 75 回及び第 76 回の R&D セミナーについてご紹介します。

第 75 回 R&D セミナー

第 75 回 R&D セミナーは、4 月 8 日に ICHARM において開催し、ストックホルムを拠点に活躍されている水・環境ガバナンスの専門家である安田由美子氏を講師にお迎えしました。国際機関や学界で豊富な経験を持つ安田専門家は、前職の世界水パートナーシップにおいて、ネットワーク・越境水協力の上級専門家として活躍されました。

セミナーでは、「越境水に関する協力：なぜ、何を、どのように」と題して、1) 国境をまたぐ水協力の重要性、2) 協力の要点、3) 流域、二国間、地域、世界的レベルでの協力実践例と参考資料、について講演がありました。安田専門家は、世界各地の様々な事例を挙げながら、越境ガバナンスの仕組みは、紛争を協力に変える可能性があることを強調されました。質疑の時間には、ICHARM 留学生と、彼らの出身地で起きている隣国との水紛争を巡り、熱心な意見交換が行われました。

本セミナーは、越境水協力について貴重な情報を得るとともに、複雑な水問題の紛争解決にどう取り組むのか考えるきっかけとなりました。

ICHARM regularly hosts Research and Development (R&D) seminars delivered by internationally acclaimed experts in a wide range of fields associated with water-related disaster management.

The 75th R&D seminar

On April 8, the 75th R&D seminar was held at ICHARM, welcoming Dr. YASUDA Yumiko, a water and environmental governance specialist based in Stockholm. She has extensive experience in both international organizations and academia, including her previous role as a senior network and transboundary water cooperation specialist at the Global Water Partnership.

At the seminar, Dr. Yasuda delivered a lecture entitled "Transboundary Water Cooperation: Why, What, and How?"



Dr. Yasuda
安田講師



Participants in the 75th R&D Seminar
第 75 回 R&D セミナー参加者

She highlighted 1) the importance of transboundary water cooperation, 2) key aspects of the cooperation, and 3) practical approaches to its implementation at basin, bilateral, regional, and global levels with available international resources. Through examples from around the world, she stressed that transboundary governance can effectively transform potential conflict into opportunities for cooperation. During the Q&A session, ICHARM students engaged in lively discussions with her and shared perspectives on water-related conflicts involving neighboring countries in their respective regions.

The seminar provided valuable insights into transboundary water cooperation and helped participants understand how to tackle complex water-related conflicts.

The 76th R&D seminar

The 76th seminar, held on June 18, invited Distinguished Professor M. Levent Kavvas, an eminent scientist from the University of California, Davis (UC Davis), as the speaker.

Distinguished Professor Kavvas became a professor of Water Resources Engineering in the Department of Civil and Environmental Engineering at UC Davis in 1990 and is currently a distinguished professor at the university. He has also served as the Gerald and Lillian Orlob endowed chair professor and the director of the Hydrologic Laboratory and the J. Amorrocho Hydraulic Laboratory at UC Davis. From 1991 to 1996, he conducted joint research on global warming impact prediction with the Public Works Research Institute of the then Ministry of Construction of Japan under the United States-Japan Cooperative Agreement on Science and Technology, and he received the International Award from the Japan Society of Hydrology and Water Resources in 1995.

As the uncertainty of hydrological phenomena increases due to climate change, seasonal streamflow forecasting has become indispensable for water resources management and flood and drought mitigation. The professor addressed this issue in his lecture titled "Seasonal forecasting of river flows under changing climate - Description of the Deterministic Model / - Sacramento River Basin."

In the first part of the lecture, he explained the development background and model structure of the Watershed Hydro-climate Model (WEHY-HCM), a physically based system featuring an atmospheric-hydrologic coupled numerical model.

He then presented a case study on its application to the Sacramento River Basin in California, USA. In this study, analyses found that deterministic forecasts produced by the physical model tend to underpredict. To address this issue, he introduced a method that combines a statistical filter called "Nonstationary Seasonal Exponential Smoothing (SES)," which follows the evolving trend of the errors from year to year to account for the impact of climate change.

The addition of SES helped the physical model correct the underprediction in question and improve consistency with observations while accounting for forecast uncertainty represented by the 10% and 90% exceedance probabilities. He highlighted that this upgraded system significantly improved forecast accuracy even under changing climate conditions.

This lecture was held in conjunction with the ICHARM 20th Anniversary Symposium,

第76回 R&D セミナー

第76回 R&D セミナーは、6月18日に、カリフォルニア大学デービス校土木環境工学部卓越教授の M.Levent Kavvas 氏をお招きしました。

Kavvas 教授は、1990 年からカリフォルニア大学デービス校土木環境工学部水資源工学教授となられ、現在は卓越教授であるとともにジェラルド・リリアン・オルロブ寄附講座教授、カリフォルニア大学デービス校水文学研究所長、およびカリフォルニア大学デービス校「アモロチョ水理実験所」所長でもあります。1991 年から 1996 年においては、日米科学技術協力協定の元で、(当時)建設省土木研究所と地球温暖化影響予測の共同研究を実施し、1995 年には水文・水資源学会から国際賞を受賞しています。

気候変動に伴い水文現象の不確実性が増大する中、水資源管理や洪水・渇水対策に不可欠な河川流量予測について、「Seasonal forecasting of river flows under changing climate

- Description of the Deterministic Model / - Sacramento River Basin."と題してご講演いただきました。

講演ではまず、気象モデルと水文モデルを高度に結合した物理ベースの流量予測システム WEHY-HCM について、その開発背景やモデル構造をご紹介いただきました。

続いて、米国カリフォルニア州のサクラメント川流域への適用事例が紹介されました。物理モデルのみに基づく決定論的予測では流量を過小評価する傾向が見られることから、その改善策として、過去の予測誤差の傾向を学習して補正を行う統計フィルター「Nonstationary Seasonal Exponential Smoothing (SES)」を組み合わせる手法を説明されました。結果として、SES を適用することで 10%～90% 超過確率の予測幅を考慮しながら観測値との整合性が向上し、変化する気候条件下においても予測精度が改善することをご紹介いただきました。

本セミナーは、前日に開催された ICHARM 設立 20 周年記念シンポジウムおよび当日午後のフォローアップセミナーと併せて実施されたこともあり、ICHARM 職員や学生に加え、多くの卒業生も参加し、総勢 46 名が参加しました。質疑応答では、活発な議論が行われ、卒業生からは各国・各機関における実務経験を踏まえた具体的な質問も寄せられるなど、非常に有意義なセミナーとなりました。

ICHARM では今後も様々な機会をとらえ、幅広い分野から水災害・リスクマネジメントに関わる知見を広く伝えるべく、セミナーを開催していく予定です。



Distinguished Professor Kavvas
Kavvas 卓越教授



An alumnus asking a question during the Q&A session
質疑応答にて質問する卒業生

held the previous day, and a follow-up seminar for educational program alumni on the afternoon of the same day. A total of 46 participants attended, including ICHARM staff, students, and many alumni. The Q&A session was active and lively, with alumni posing specific questions based on their practical experiences in various countries and organizations, resulting in a highly fruitful discussion.

ICHARM will continue organizing seminars at various opportunities in the future to update researchers with the latest knowledge and skills on water-related issues across a wide range of perspectives.

(The 75th R&D Seminar was written by OKADA Tomoyuki and the 76th R&D Seminar was written by KAKINUMA Daiki)

● Information Networking

Visit from the Vietnam Academy of Science and Technology ベトナム科学技術院からの訪問

4月1日に、グエン・スアン・アイン所長を始めとするベトナム科学技術院 (VAST) 地球科学研究所 (IES) の一行が ICHARM を訪れ、ICHARM との協力の可能性について議論しました。地球科学研究所は、土石流、地滑り、渇水、豪雨を含む様々な自然災害の原因やメカニズムを研究し、それらの被害軽減策を打ち出しています。

ICHARM からは、概要紹介の後、各研究員がベトナムの気候変動と洪水ハザードシミュレーション・ツール、インドネシアの気候変動と社会変化の下での洪水リスク評価、日本の土砂災害研究、フィリピンでの「水のレジリエンスと災害に関するプラットフォーム」活動について説明しました。

地球科学研究所からは、ファン・パン・ティエン上級研究員が、北部や中部に山岳地帯が広がるベトナムにおける、近年の地滑り、土砂災害を紹介しました。意見交換では、両機関に共通する研究テーマで情報交換を継続し、将来できれば共同研究に繋げることで合意しました。会議には ICHARM 博士課程と修士課程のベトナム人留学生2名も加わり、専門的なネットワークの拡大にも役立っています。

On April 1, a delegation from the Institute of Earth Sciences (IES) of the Vietnam Academy of Science and Technology (VAST), led by General Director Nguyen Xuan Anh, visited ICHARM to explore opportunities for collaboration. IES conducts research on the causes and mechanisms of various natural disasters, including flash floods, landslides, droughts, and heavy rainfall, and develops solutions to reduce their impacts.

After a brief introduction to ICHARM, its researchers provided an overview of their work, including climate-change and flood-hazard simulation tools in Vietnam; flood risk assessment under climate and social changes in Indonesia; research on sediment-related disasters in Japan; and the Platform on Water Resilience and Disasters in the Philippines.

On behalf of IES, Senior Researcher Pham Van TIEN presented recent cases of landslides and sediment disasters in Vietnam, where large mountainous areas are located in the northern and central regions. During the discussion, both sides agreed to continue technical exchanges on shared research topics, with a view to developing joint research projects in the future. Two Vietnamese students from ICHARM's doctoral and master's programs also attended the meeting, which helped them broaden their professional networks.



Guests from VAST and ICHARM members
ベトナム科学技術アカデミーと ICHARM のメンバー

(Written by OKADA Tomoyuki)

ICIMOD-ICHARM Joint Scientific Webinar ICIMOD-ICHARM 合同学術ウェビナー

On April 23, 2026, ICHARM held a joint scientific webinar with the International Centre for Integrated Mountain Development (ICIMOD), based in Nepal. This webinar was organized to strengthen collaboration between ICHARM and ICIMOD through presentations and discussions of research findings on hydro-meteorology, sediment transport, landform changes, and river basin management in river basins, including high mountain regions. A total of 42 participants both from Nepal and Japan attended the webinar (Figure 1).

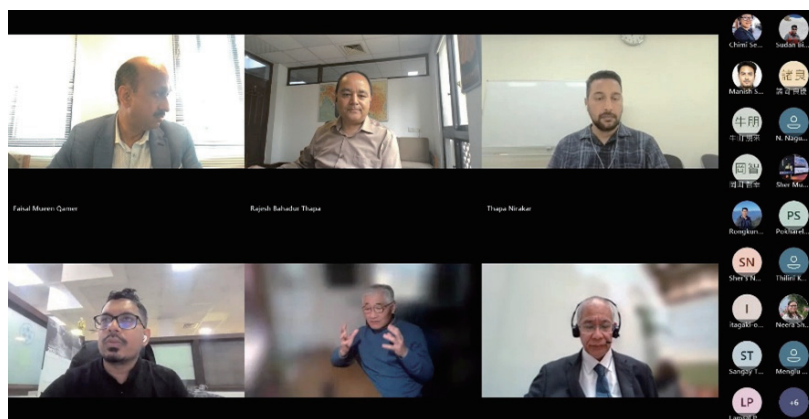


Fig. 1 A snapshot from the webinar
図1 ウェビナーの様子

Table 1 Agenda of the webinar
表1 ウェビナーのプログラム

Japan Time	Contents
13:00–13:15	Opening Remarks Prof. Toshio Koike, Executive Director, ICHARM Prof. Kenzo Hiroki, Professor Emeritus, GRIPS
13:15–14:15	Session 1: Presentations from ICHARM 1. Mr. Sunil Pokharel, Research Assistant “Model analytical platform for high mountain hydro-meteorology” 2. Dr. Daisuke Harada, Invited Researcher “Prediction of water, sediment, and driftwood runoff during extreme events using the Rainfall-Sediment-Runoff (RSR) model” 3. Dr. Naoko Nagumo, Research Specialist “Research on the river mouth: Multi-decadal landform evolution in the Sittaung River Estuary in Myanmar”
	Break
14:25–15:25	Session 2: Presentations from ICIMOD 1. Dr. Mohd. Farooq Azam, Senior Intervention Manager (Cryosphere) “Progress in cryosphere science and monitoring of Hindu Kush Himalaya” 2. Dr. Faisal Mueen Qamer, Senior Intervention Manager (River Basins) “ICIMOD’s approach to promoting science-based river basin management in the Hindu Kush Himalaya” 3. Dr. Santosh Rauniyar, Research Fellow, OPRI-SPF “Why the Third Pole is important”
15:25–15:30	Closing Remarks Prof. Toshio Koike, Executive Director, ICHARM Dr. Faisal Mueen Qamer, Senior Intervention Manager (River Basins), ICIMOD
Moderator: Dr. Rajesh Bahadur Thapa, Senior Project Coordinator, Glaciers-to-Ocean (G2O) Initiative, ICIMOD	

This webinar began with the opening remarks by Executive Director KOIKE Toshio of ICHARM and Professor Emeritus HIROKI Kenzo at the National Graduate Institute for Policy Studies (GRIPS). Following this, ICHARM researchers delivered presentations. Research Assistant Sunil Pokharel presented research on the development of hydrological analytical modeling platform that incorporates snow-glacier processes in high-mountain regions where observation data are limited. Invited Researcher HARADA Daisuke explained methods for analyzing floods accompanied with

ICHARM は、2026 年 4 月 23 日にネパールにある国際山岳総合開発センター (ICIMOD) と合同学術ウェビナーを開催しました。このウェビナーは、高山地域を含む流域の気象・水文、土砂輸送や地形変動、流域管理などに関わる研究発表や意見交換を通じて、ICIMOD と ICHARM の連携を強化することを目的に企画されたもので、ネパールと日本から 42 名が出席しました (図 1)。

このウェビナーでは、まず小池俊雄 ICHARM センター長と廣木謙三政策研究大学院大学名誉教授が開会挨拶を述べました。次に、ICHARM の Sunil Pokharel リサーチアシスタントが、観測データの乏しい高山地域における、雪氷プロセスを考慮した水文解析モデルプラットフォームの開発に向けた研究について発表を行いました。さらに、原田大輔招聘研究員は土砂や流木を伴う洪水氾濫の解析法と日本の河川への適用例を紹介し、南雲直子専門研究員が地理情報を用いた河口域の歴史的流路変動プロセスに関する研究について説明しました。また、ICIMOD からは、Dr. Mohd. Farooq Azam 雪氷圏上級プロジェクトマネージャー、Dr. Faisal Mueen Qamer 河川流域上流プロジェクトマネージャーと、笹川平和財団海洋政策研究所の Dr. Santosh Rauniyar リサーチフェローが、ヒンドークシュ・ヒマラヤ地域における ICIMOD の研究概要を紹介しました (表 1)。

これらの発表を踏まえた意見交換では、氷河から海までの領域を対象に、グローバルデータと現地観測データを用いた気象・水文モニタリングの高度化、土砂輸送動態の把握とモデリング、科学的成果を政策決定者が理解しやすい形で整理・提供していくこと、に焦点をあて、ICIMOD と ICHARM で総合的研究を推進していくことで合意しました。ICHARM では、具体的な研究対象地域や研究テーマの選定、研究着手に向け、ICIMOD と議論を進めていきます。

sediment and driftwoods, as well as their applications to Japanese river basins. Research Specialist NAGUMO Naoko presented research on historical channel change processes in river mouth areas using geographic information. ICIMOD researchers followed. Senior Intervention Managers Mohd. Farooq Azamse (cryosphere) and Faisal Mueen Qamer (river basins), and along with Research Fellow Santosh Rauniyar of Ocean Policy Research Institute, the Sasakawa Peace Foundation (OPRI-SPF) presented an overview of ICIMOD's research in the Hindu Kush Himalaya region (Table 1).

During the discussion following these presentations, both sides agreed that the two institutes would promote comprehensive research in the areas extending from glaciers to the sea, enhancing meteorological and hydrological monitoring through the integration of global datasets and ground-observed data, improving the understanding and modeling of sediment transport dynamics, and strengthening science-policy interfaces to support evidence-based policymaking. ICHARM will continue discussions with ICIMOD to start research activities, including selecting target areas and research themes.

(Written by NAGUMO Naoko)

Participation in the AWG Meeting and the 21st WGD RR Annual Meeting of the Typhoon Committee

台風委員会諮問部会および防災部会への参加

宮本守主任研究員が2026年5月19日から22日まで韓国・ソウルで開催された台風委員会（TC）の諮問部会（AWG）と第21回防災部会年次会合に水文部会の議長として参加しました。今回の会合には経済協力開発機構（OECD）や国連アジア太平洋経済社会委員会（ESCAP）、世界気象機関（WMO）等からの対面参加と技術プレゼンテーションもあり、非常に有意義な機会となりました。

諮問部会の会合では、資金動員指針や予算執行計画、次期戦略計画2027-2031、第21回統合部会開催計画など台風委員会の運営に関する重要項目が議論されました。特に、研修・研究調整グループ（TRCG）が実施しているロービングセミナーに関して、これまでは各国の気象予報官を主たる対象に気象予測に関する内容で構成されていましたが、今後は、河川管理者や災害担当者も対象にした水文予測や被害予測などの内容についても実施することを提案しました。その結果、各年の対象を、気象、水文、防災の順番で回し、4年に一度TRCGフォーラムとして分野横断的で包括的な研修機会を催すことが決定されました。

ICHARMでは、台風委員会を地域の災害レジリエンスを強化するための貴重な機会として捉え、対面での効果的な交流を通じて、技術協力と能力開発の地域間協力に貢献していく所存です。

Senior Researcher MIYAMOTO Mamoru, who also serves as the chairperson of the Working Group on Hydrology (WGH) of the Typhoon Committee, participated in two meetings the committee held in Seoul, South Korea, from May 19 to 22, 2026: the Advisory Working Group (AWG) meeting and the 21st Working Group on DRR (WGD RR) Annual Meeting. These meetings featured in-person participation and technical presentations from organizations such as the Organisation for Economic Co-operation and Development (OECD), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and the World Meteorological Organization (WMO), making them a highly meaningful opportunity.

The AWG meeting discussed key items regarding the operation of the Typhoon Committee, including guidelines for resource mobilization, budget implementation plans, the next Strategic Plan 2027–2031, and the design for the 21st Integrated Workshop. The meeting also considered a proposal regarding the Roving Seminar conducted by the Training and Research Coordination Group (TRCG). While TRCG has operated this seminar primarily with a focus on meteorological forecasting to support national weather forecasters, the proposal suggested expanding its scope to include hydrological forecasting and damage assessment, targeting river management officials and disaster management personnel as well. As a result, the meeting decided that the focus would rotate annually among meteorology, hydrology, and DRR, with a cross-sectoral, comprehensive training opportunity to be held as the TRCG Forum once every four years.

ICHARM views the Typhoon Committee as a valuable platform for strengthening regional disaster resilience and remains committed to contributing to regional cooperation in technical assistance and capacity development through effective in-person exchanges.



Senior Researcher Miyamoto (center) voicing his view during the session
質疑の様子



Participants in the 21st Annual Meeting of WGDRR
台風委員会第21回防災部会年次会合の参加者

(Written by MIYAMOTO Mamoru)

Participation in the Eightieth session of the WMO Executive Council (EC-80) 世界気象機関第80回執行理事会への参加

The 80th session of the Executive Council (EC-80) of the World Meteorological Organization (WMO) was held at WMO headquarters in Geneva, Switzerland, from June 22 to 26, 2026. Senior Researcher MIYAMOTO Mamoru participated as the regional hydrological adviser for Regional Association II (RA II). The EC, the executive body of WMO, implements decisions made by the World Meteorological Congress. It coordinates various programs, manages the budget, deliberates on and responds to resolutions and recommendations from regional associations and technical commissions, and examines and makes recommendations on matters related to international meteorology and related activities.

During this session, the EC particularly highlighted the strengthening of international partnerships and funding mechanisms in the fields of climate, water, and disaster risk reduction as key agenda items. In addition, the meeting agreed on the direction for promoting early warning systems and capacity development in member states, which was closely aligned with ICHARM's initiatives. At the closing, the session confirmed that challenging issues such as financial sustainability, strategic priorities, governance, and the future direction of the organization had been discussed, and that important agreements had been reached despite differing positions among member states.

第80回世界気象機関(WMO)執行理事会(EC-80)が、スイス・ジュネーブのWMO本部で2026年6月22日から26日にかけて開催され、宮本守主任研究員がアジア地域(RA II)の地域水文アドバイザーとして参加しました。執行理事会はWMOの執行機関として世界気象会議(Congress)の決定事項を実施する組織であり、各種プログラムの調整、予算管理、地域協会・技術委員会からの決議・勧告の審議・対応、国際気象学および関連活動に関する事項の検討・勧告を行っています。特に、気候・水・防災分野における国際的なパートナーシップと資金調達メカニズムの強化は重要議題であり、早期警戒システムの推進や加盟国の能力開発に向けた方向性はICHARMの取り組みと密接に関係するものでした。閉会にあたっては、財政の持続可能性、戦略的優先事項、ガバナンス、組織の今後の方向性といった難

しい課題について議論されたこと、加盟国それぞれの立場は異なるものの重要な合意に至ったことが述べられました。

また、このジュネーブ渡航の機会を活用し、日本の補正予算による ASEAN プロジェクトに関する会議を実施するとともに、その他の ICHARM と WMO の協力事項についても打合せを行いました。WMO 水文・水資源部門のチーフであるキム・フィリン氏と開発パートナーシップ・プログラム部門の築添氏、科学・サービス・能力開発部門の内藤氏とは、ASEAN プロジェクトに関する協議内容やアジア地域協会の進捗、国連ハイレベル政治フォーラム、アフガニスタンの JICA プロジェクトなどについて意見交換を行いました。さらに、WMO のサービス委員会の共同副委員長であり、台風委員会の元諮問部会議長であるレイモンド・タナベ氏や、カメルーン気象局の長官であり、ISO/TC268（持続可能な都市とコミュニティ）で日本からの提案に協力いただいているチンダ・タゾ氏とも対面で詳細を話すことができ、連携を確認することができました。

Taking advantage of this trip to Geneva, Senior Researcher Miyamoto also met with WMO and other officials to exchange views and ideas about projects and plans. During meetings with WMO officials – Hwirin Kim, the head of the Hydrological and Water Resources Division; TSUKIZOE Megumi, a seconded expert of the Division of Development Partnerships and Program Deliver; and NAITO Kensuke, a junior professional officer of the Department of Science, Services, and Capacity Development – he discussed the ASEAN project funded by Japan's supplementary budget and other areas of cooperation between ICHARM and WMO, including progress in RA II, the UN High-Level Political Forum, and the JICA project in Afghanistan. He also met with Raymond Tanabe, a co-vice chair of WMO's Services Commission (SERCOM) and the former chair of the Advisory Working Group (AWG) of the Typhoon Committee, as well as Simplicie Tchinda Tazo, the director of the National Meteorology Department in Cameroon, who has been supporting Japan's proposals in ISO/TC268 on sustainable cities and communities. These meetings provided a valuable opportunity to reaffirm and strengthen ongoing collaboration.



A scene of the EC-80
EC-80の様子



Senior Researcher Miyamoto (second from left) with Ms. Tsukizoe, Ms. Kim, and Mr. Naito (from right to left)
意見交換を行った WMO のキム・フィリン氏、築添氏、内藤氏



Senior Researcher Miyamoto (right) with Mr. Tanabe
WMO サービス委員会の共同副委員長レイモンド・タナベ氏と宮本主任研究員（右）



Senior Researcher Miyamoto (left) with Mr. Tazo
カメルーン気象局長官チンダ・タゾ氏と宮本主任研究員（左）

(Written by MIYAMOTO Mamoru)

● 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, while remaining sensitive to local needs, priorities, development stages, and other factors, 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**

In this issue, Research Specialist TAMAKAWA Katsunori shares his recent research, titled "Snow Hydrological Model (WEB-DHM-S) for Climate Change Impact Assessment".

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玉川 勝徳専門研究員より「気候変動影響評価のための雪水文モデル (WEB-DHM-S)」を紹介します。



Snow Hydrological Model (WEB-DHM-S) for Climate Change Impact Assessment

気候変動影響評価のための雪水文モデル (WEB-DHM-S)

TAMAKAWA Katsunori, Research Specialist

玉川 勝徳専門研究員

To assess the impacts of snowfall, snow accumulation, and snowmelt under climate change, it is necessary to have a snow hydrological model capable of estimating the basin-scale snow water equivalent from the past to the present, and into the future, even when no observational data exist.

In mountainous snowy regions, snow-accumulation and snowmelt processes can be physically and accurately simulated using meteorological reanalysis data. The results of snowfall, snow accumulation, and snowmelt can also be accurately observed by satellites as changes in snow-covered area. However, measuring snowfall amounts involves many uncertainties in in-situ and satellite observations. As a result, annual runoff is often calculated to be larger than annual precipitation due to the underestimation of snowfall.

Naseer et al.¹⁾ and Shrestha et al.²⁾ developed the Water and Energy Budget-based Distributed Hydrological Model with Snow (WEB-DHM-S), which considers the land-surface water and energy balance, including snowfall, snow accumulation, and snowmelt. This model integrates in-situ and satellite observations with numerical simulation and reanalysis data, and updates the continuously changing land surface conditions using atmospheric forcing inputs (wind direction, wind speed, air temperature, humidity, solar radiation, longwave radiation, precipitation). After calibrated and validated using past data, the model runs stably over long periods without recalibration. By using observed snowfall as signals, correcting the calculated snow-covered area to match satellite-observed area, and further calibrating and validating the model using observed and calculated river discharge in downstream areas, it becomes possible to quantitatively assess the spatial distribution of snowfall in upstream areas. This enables estimation of snow water equivalent in mountainous regions, as shown in Figure 1.

気候変動下での降雪・積雪・融雪量の影響評価には、流域単位で過去から現在までの積雪賦存量と観測データが存在しない将来の積雪賦存量の双方を推定可能な雪水文モデルが必要です。

積雪山岳地域において、積雪・融雪過程は気象再解析データを用いて物理的に精度よく計算できます。また降雪・積雪・融雪の結果は積雪域の変化として、人工衛星で精度よく観測できます。しかし、降雪量は、地上観測、衛星観測でも不確実性が多く、その結果、降雪量の過小評価のために、年降水量より年流出高が大きくなる 경우가多くあります。

Naseer ら¹⁾、Shrestha ら²⁾は「降雪・積雪・融雪を含む地表面での水エネルギー収支を考慮した分布型水循環モデル (WEB-DHM-S)」を開発しました。これは地上観測データ、衛星観測データ、モデル出力データを統合的に解析します。時々刻々と変化する地表面の状態量を大気強制力データ（風向・風速・気温・湿度・日射・長波放射・降水）を入力し更新することで、一度、過去データでモデルを校正・検証すれば、再校正なしに長期に安定して走り続ける特徴を有しています。観測された降雪量をシグナルと捉えて、計算された積雪域が衛星観測と一致するように

積雪に関するパラメータを補正し、さらに、下流域で観測された流量と計算流量を用いてモデルの校正・検証をすることで上流域における降雪量分布を定量的に把握することが可能になります。これにより、図1に示すような山岳地域での積雪賦存量が推定可能になります。

WEB-DHM-Sを用いて降雪量、降水量を定量的に推定する方法を説明します。まず、融雪出水の影響がない暖候期を対象に低水と洪水に着目し、表層土壌、不飽和帯、地下水層の各透水係数や土壌の水分保持曲線の形状を決めるパラメータ、地表面や河道の粗度を調整しモデルを校正します。次に降雪・積雪・融雪の影響がある寒候期～融雪期を対象に、河川流出量データや衛星観測による積雪域データを参照して雪に係る雨雪判別気温や降雪強度のパラメータを校正しモデルを検証します。具体的には、入力する「降水：Precipitation」の形態、つまり「降雪：Solid Precipitation」か「降雨：Liquid Precipitation」を判別するための雨雪判別の気温を設定します。例えば気温が 0°C 未満であれば、降雪とし水文モデルに入力し積雪深・積雪域を計算します。それが、衛星で観測した積雪域と合うかを比較し、合わない場合は雪に係わる補正係数である、降雪強度や土壌の反射率（アルベド）を調整し、衛星観測値と合うようにします。気温が 0°C 以上であれば降雨となり、水文モデルが出力する融雪量と流量の合計が現地の観測河川流量と合うかを比較し、合わない場合は、流量に係わる補正係数である降雨強度や土壌パラメータ、地表面や河道粗度を調整します。これにより下流域での観測流量をもとに、上流域での不確実性の高い降雪・降雨の定量化が可能になります。

玉川ら³⁾はこのWEB-DHM-Sを長野県の犀川流域に適用しました。2017年11月～2018年6月に適用した事例を示します（図3）。衛星（MODIS）で観測した積雪域と比較し11月～1月にかけての積雪期、2月から5月にかけての融雪期の積雪域を精度良く再現しています。また、流量で比較しても3月～6月の融雪出水を精度よく推定しています。

過去から現在までは気象庁の長期再解析データ（JRA3Q）と観測雨量を入力することで高精度に、将来ではCMIP6やd4PDFのアンサンブル予測を入力することでの積雪・融雪量を含む河川流量を不確実性の幅を持って定量的に推定できます。これにより気候変動下における水資源管理、融雪水の発電利用、また、観光に与える影響等を総合的に評価できるようになりWEB-DHM-Sが果たす役割はますます重要となります。

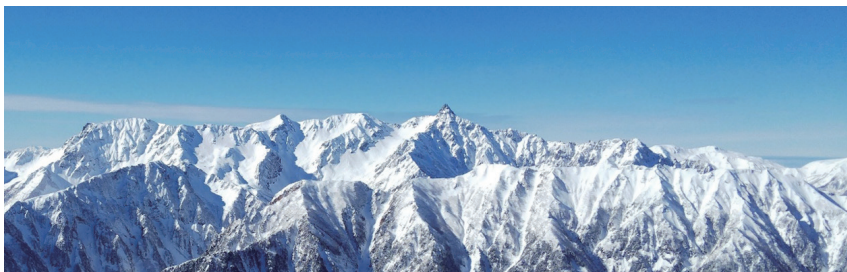


Figure 1: Image of snow targeted in this study

図1：対象とする雪のイメージ

Snowfall and rainfall can be quantitatively estimated using WEB-DHM-S as follows. First, focusing on low-flow and flood events during the warm season, when snow-melt runoff does not occur, the model is calibrated by adjusting parameters that control hydraulic conductivity in the surface soil, unsaturated zone, and groundwater layer, as well as the shape of soil water retention curves and land-surface and river-channel roughness. Next, for the snowfall-to-snowmelt season, when snowfall, snow accumulation, and snowmelt affect hydrology, snowfall-related parameters such as the rainfall-snowfall threshold temperature and snowfall intensity are calibrated, and the model is validated using river discharge data and satellite-observed snow-covered area data.

To determine the form of input precipitation, either solid (snowfall) or liquid (rainfall), a rain-snow threshold temperature is set. For example, when air temperature is below 0°C , precipitation is treated as snowfall and used for the WEB-DHM-S modeling to calculate snow depth and snow-covered area. These results are compared with satellite-observed snow-covered area, and if discrepancies arise, snow-related correction factors such as snowfall intensity and snow albedo are adjusted for the model-calculated results to match satellite observations. When air temperature is above 0°C , precipitation is treated as rainfall, and the sum of model-output snowmelt and river discharge is compared with observed river discharge. If mismatches occur, discharge-related correction factors such as rainfall intensity, soil parameters, and land-surface or river-channel roughness are adjusted. In this way, snowfall and rainfall with high uncertainty in upstream areas can be quantitatively estimated based on observed discharge in downstream areas.

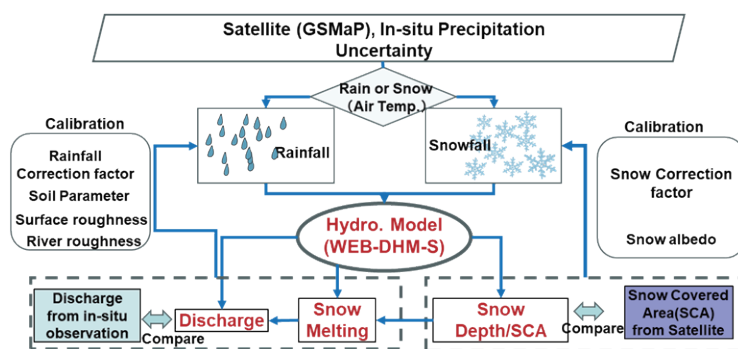


Figure 2: Method for quantitatively estimating snowfall and rainfall using WEB-DHM-S

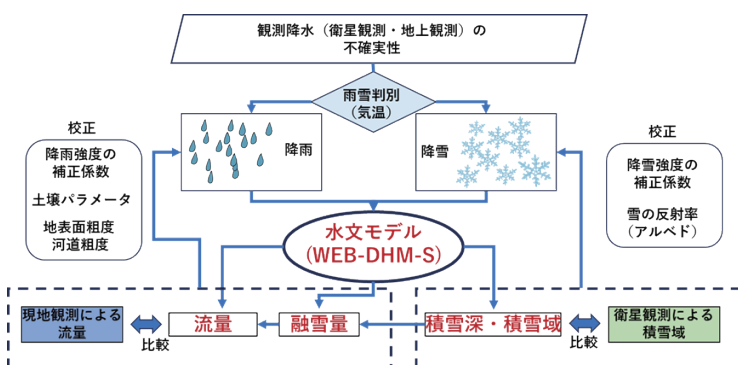


図2：WEB-DHM-Sを用いて降雪量、降水量を定量的に推定する方法

Tamakawa et al.³⁾ applied WEB-DHM-S to the Sai River Basin in Nagano Prefecture, Japan. Figure 3 shows the application results from November 2017 to June 2018. The model accurately reproduced snow-covered area during both the snow accumulation period (November–January) and the snowmelt period (February–May) when compared with MODIS satellite observations. It also accurately estimated snowmelt runoff from March to June when compared with observed discharge.

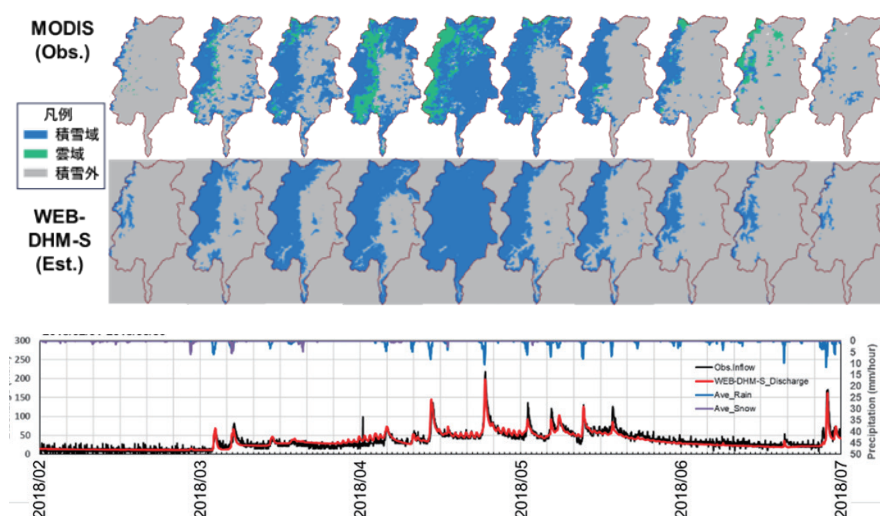


Figure 3: Estimated snow-covered areas in the Sai River Basin, Nagano Prefecture, Japan, during the winter season (November 1, 2017 – June 30, 2018): Snow-covered areas observed by satellites (top) and estimated by WEB-DHM-S (bottom), and comparison of river discharge (black: observed discharge, red: estimated discharge).

図3：長野県の犀川流域における寒候期（2017年11月1日～2018年6月30日）で推定された積雪域（衛星観測（上）とWEB-DHM-Sによる推定（下））、また、流量の比較（黒：観測流量、赤：計算流量）

From the past to the present, high-accuracy estimation is possible by inputting long-term reanalysis data from the Japan Meteorological Agency (JRA3Q) and observed precipitation. For the future, river discharge, including snowfall and snowmelt amounts, can be quantitatively estimated with uncertainty ranges by inputting ensemble projections from CMIP6 and d4PDF. As a result, comprehensive evaluation of water resources management under climate change, hydropower use of snowmelt water, and impacts on tourism becomes possible, and the role of WEB-DHM-S will become increasingly important.

References:

- 1) Naseer, A., Koike, T., Rasmy, M., Ushiyama, T., & Shrestha, M. (2019). Distributed hydrological modeling framework for quantitative and spatial bias correction for rainfall, snowfall, and mixed-phase precipitation using vertical profile of temperature. *Journal of Geo-physical Research: Atmospheres*, 124, 4985.5009. <https://doi.org/10.1029/2018JD029811>.
- 2) Shrestha, M., Wang, L., Koike, T., Xue, Y., & Hirabayashi, Y. (2012). Modeling the spatial distribution of snow cover in the Dudhkoshi region of the Nepal Himalayas. *Journal of Hydrometeorology*, 13, 204.222. <https://doi.org/10.1175/JHM-D-10-05027.1>.
- 3) Katsunori Tamakawa, Shigeru Nakamura, Cho Thanda Nyunt, Tomoki Ushiyama, Mohamed Rasmy, Keiji Kubota, Asif Naseer, Eiji Ikoma, Toshihiro Nemoto, Masaru Kitsuregawa, and Toshio Koike (2024): Investigation of an Ensemble Inflow-Prediction System for Upstream Reservoirs in Sai River, Japan, *Water* 2024, 16(18), 2577; <https://doi.org/10.3390/w16182577>

Closing Workshop of UNESCO Kenya Project UNESCO ケニアプロジェクトの最終ワークショップ

ICHARM と東京大学および UNESCO 東アフリカ地域事務所が進めてきた「ケニアにおける洪水レジリエンス強化」プロジェクトの最終ワークショップが 2026 年 4 月 14 日にケニア・ナイロビで開催され、小池俊雄センター長、宮本守主任研究員、玉川勝徳専門研究員が参加しました。ワークショップには、松浦博司特命全権大使、ケニア水・衛生・灌漑省のメアリー・ワマイサ部長、水資源庁のモハメド・シュリー CEO、UNESCO 東アフリカ地域事務所のルイズ・ハクスターセン所長も主賓として参加されました。

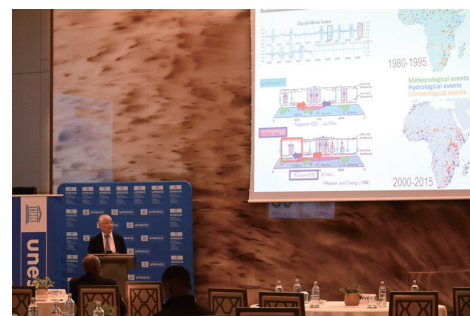
ICAHRM からの活動報告では、降雨予測と水文予測の精度や洪水ホットスポットの特定を踏まえた上で DIAS 上に開発した洪水予警報システムを紹介しました。さらに、ケニア気象局、水・衛生・灌漑省、ケニア発電公社、タナ川郡政府から各 1 名（計 4 名）のケニア人専門家が訪日研修を修了し、ファシリテーターとなってケニアにおける研修を企画し実施した能力開発スキームも紹介しました。この省庁横断的なアプローチは、参加者の多くの関心を集め有益な議論をすることができました。

これらの予警報システムの開発や能力開発プログラムは、1 年間という短い期間で取り組まれたことや他流域や他国への展開が十分に可能であることを踏まえ、次のステップを議論するための個別会議が翌日に UNESCO 東アフリカ地域事務所で開催されました。個別会議では、レジリエンス強化と持続可能性の対象を、1) 国家スケールへの展開、2) ローカルな自主管理能力への深化、3) 近隣国との地域協力体制の構築、とすることについて議論しました。これに伴い、洪水だけでなく渇水リスクについて対象に含める必要性も検討しました。ICHARM では、このような多角的な視点から、今後もアフリカ地域の災害レジリエンスと持続可能性の向上に貢献する所存です。

The closing workshop for the “Enhancing Flood Resilience in Kenya” project—carried out by ICHARM, the University of Tokyo, and the UNESCO Regional Office for East Africa—was held on April 14, 2026, in Nairobi, Kenya. Executive Director KOIKE Toshio, Senior Researcher MIYAMOTO Mamoru, and Research Specialist TAMAKAWA Katsunori participated in the workshop. The workshop was attended by distinguished guests, including MATSUURA Hiroshi, the ambassador extraordinary and plenipotentiary of Japan to the Republic of Kenya; Eng. Mary Wamaitha, the director of Sanitation Management in the Ministry of Water, Sanitation, and Irrigation; Mohamed Shurie, the CEO of the Water Resources Authority; and Louise Haxthausen, the director of the UNESCO Regional Office for East Africa.

During their activity report, ICHARM staff presented the flood early warning system they developed on the DIAS platform after examining the accuracy of rainfall and hydrological forecasts and identifying inundation hotspots. They also introduced a capacity-building scheme in which four Kenyan experts—one each from the Kenya Meteorological Department, the Ministry of Water, Sanitation, and Irrigation, the Kenya Electricity Generating Company, and the Tana River County Government—completed a training program in Japan and subsequently served as “Facilitators” who planned and implemented training in Kenya. This cross-sectoral approach attracted significant interest from the participants and led to fruitful discussions.

Given that the development of the early warning system and the capacity-building program was accomplished within just one year, and considering that their expansion to other river basins and countries is entirely feasible, a separate meeting was held the following day at the UNESCO East Africa Regional Office to discuss the next steps. During this meeting, discussions focused on expanding the scope of resilience-building and sustainability efforts to: 1) nationwide multi-stakeholder cooperation; 2) local self-management capabilities; and 3) regional cooperation frameworks with neighboring countries. The meeting also discussed the need to include drought risks—in addition to flood risks—within the scope of these efforts. ICHARM remains committed to contributing to the enhancement of disaster resilience and sustainability in the African region from these multifaceted perspectives.



Presentation by Executive Director Koike
小池センター長による活動報告



Participants in the closing workshop
最終ワークショップの参加者



Separate meeting to discuss scaling up the project at the regional office
さらなる展開のための個別会議

(Written by MIYAMOTO Mamoru)

Completion of the HyDEPP-SATREPS Project in the Philippines フィリピン HyDEPP-SATREPS プロジェクトの終了

ICHARM has been involved in a research project entitled “Development of a Hybrid Water-Related Disaster Risk Assessment Technology for Sustainable Local Economic Development Policy under Climate Change (HyDEPP-SATREPS).” This project is led by Principal Investigator OHARA Miho, a professor at the University of Tokyo, under the Science and Technology Research Partnership for Sustainable Development (SATREPS), a joint initiative of the Japan International Cooperation Agency (JICA) and the Japan Science and Technology Agency (JST). After the project was selected for funding under the SATREPS program, we began our research on April 1, 2020, following a one-year preparatory period. Our major research activities concluded with the final symposium held at the University of Tokyo on February 27, 2026, and the project was officially completed on May 31.

The objective of this project was to develop policy recommendations for sustainable economic development in urban and rural areas under climate change, based on water-related disaster risk assessment using a hybrid model covering climate change, hydrology, agriculture, and socio-economic activities. The project focused on the Pampanga River Basin and the Pasig–Marikina River–Laguna Lake Basin on Luzon Island, where water-related disasters occur frequently. In collaboration with Philippine members, the research was carried out through four working groups: Group 1, Data collection and sharing; Group 2, Assessment of flood and drought risk; Group 3, Assessment of water-related disaster resilience; and Group 4, Sustainable local economic development. As the final outputs of the project, Synthesis Reports and Policy Briefs were prepared.

The Synthesis Reports provide comprehensive summaries of the regional economic development strategies considered necessary for each river basin, while the Policy Briefs present more specific policy recommendations. Six Policy Briefs were prepared, covering the following topics: 1) the need for centralized data platform; 2) the need for flood monitoring; 3) the need for crop monitoring; 4) the need for risk-based land use management considering flood risk; 5) the need to strengthen farmers' resilience; and 6) the need to introduce paid crop insurance. As shown in Figure 1, the Synthesis Reports were prepared based on the development of the water-related disaster risk assessment model and the evaluation of adaptation measures. Based on the findings summarized in the reports, draft Policy Briefs were then prepared. These drafts were subsequently revised and finalized

ICHARM は、国際協力機構（JICA）および科学技術振興機構（JST）の SATREPS 事業（地球規模課題対応国際科学技術プログラム）として進めている研究プロジェクト「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（研究代表者：大原美保東京大学教授、プロジェクト略称：HyDEPP-SATREPS）」に参加してきました。SATREPS 事業として採択後、一年間の準備期間を経て 2020 年 4 月 1 日より研究を進めてきましたが、2026 年 2 月 27 日に東京大学で開催された最終成果報告会をもって主な研究活動を終え、5 月 31 日にプロジェクトを終了しました。

このプロジェクトでは、気候変動・水理水文・農業・経済活動を結合させたハイブリッド型モデルによる水災害リスク評価に基づき、気候変動下での都市と農村における持続可能な経済発展のための政策提言を行うことを目的としました。水災害が頻発しているルソン島のパンパンガ川流域とパッシング・マリキナ川–ラグナ湖流域を対象に、フィリピン側メンバーと共に、グループ 1：データ収集・統合化、グループ 2：洪水・渇水リスク評価、グループ 3：水災害レジリエンス評価、グループ 4：地域経済発展シナリオの検討、に分かれて研究を進め、最終的に統合的成果報告書と、政策提言書を取りまとめることができました。

統合的成果報告書は流域ごとに今後必要と考えられる地域経済発展策を包括的に取りまとめたものであるのに対し、政策提言書はより具体的な施策を記述したもので、データの標準化の必要性、洪水モニタリングの必要性、農業モニタリングの必要

性、洪水リスクを考慮した土地利用マネジメントの必要性、農家のレジリエンス確保の必要性、有償作物保険導入の必要性、の6項目について作成しました。図1に示すように、水災害リスク評価モデルの開発・適応策評価を踏まえて統合的成果報告書を作成した後、政策提言書の素案を作成しました。この素案は、地域レベル・国レベルの関係機関との意見交換ワークショップを踏まえて改訂し最終化したもので、提言先である各機関に提出しました。これによりプロジェクトの研究目標を達成することができました。また、主要な科学的研究成果として、9本の査読付論文が Journal of Disaster Research の特集号 (Vol. 21, No. 2) に掲載されました。

本プロジェクトの活動当初には、新型コロナウイルス感染症蔓延の影響を受けて3年間現地渡航が出来ない、という困難な時期もありましたが、フィリピン側研究代表機関であるフィリピン大学ロスバニョス校のメンバーと協力しながら、無事に全ての研究活動を終えることができました(写真1)。SATREPS事業としての研究活動は終了しましたが、ICHARMは継続プロジェクトに参画し、活動を開始しています。本プロジェクトで得られた成果を発展させていくとともに、フィリピン側関係者との関係を継続し、共同研究や能力開発などの活動に引き続き貢献していきたいと考えています。

through consultation workshops with relevant organizations at both the regional and national levels, and the finalized Policy Briefs were submitted to the respective target organizations. Through these activities, the project successfully achieved its research objectives. In addition, nine peer-reviewed academic papers based on the project's major scientific achievements were published in a special issue of the Journal of Disaster Research, Vol. 21, No. 2.

During the early stages, the project team faced significant challenges as the COVID-19 pandemic prevented travel between the Philippines and Japan for three years. Nevertheless, close collaboration between Japanese researchers and members of the University of the Philippines Los Baños, the Philippine representative organization for this project, enabled the successful completion of all research activities (Photo 1). Although activities under the SATREPS program have now ended, ICHARM members are involved in continuing projects and have already started relevant work. They aim to advance the research outcomes of this multi-year project while maintaining their collaborative relationship with the Philippine partners. ICHARM looks forward to continuing its contributions through joint research, capacity development, and other collaborative activities.

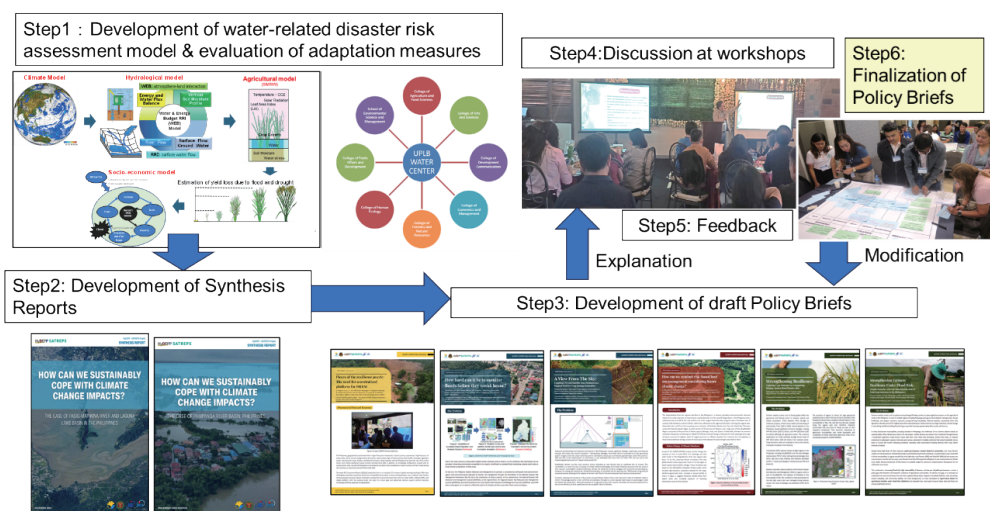


Figure 1 Flow chart of developing the synthesis reports and policy briefs

図1 統合的成果報告書・政策提言書作成のフロー



Photo 1 Group Photo with the project members of University of the Philippines Los Baños

写真1 フィリピン大学ロスバニョス校のメンバーとの集合写真

(Written by NAGUMO Naoko)

Field Surveys and Urban Flood Model Development under the SATREPS Argentina Project

SATREPS アルゼンチンプロジェクトにおける現地調査および都市洪水氾濫解析モデルの開発を実施

Research Specialist QIN Menglu took a business trip to Buenos Aires and Cordoba in Argentina from May 11 to June 7, 2026, to conduct field surveys and develop an urban flood model under the SATREPS Argentina project. This project, currently in its fifth year, is titled "Numerical Weather Prediction and Warning Communication System for Densely Populated and Vulnerable Cities (PREVENIR)".

The primary objective of this mission was to develop a locally tailored RRI-Sewer model, which integrates local sewer networks into the Distributed Rainfall-Runoff-Inundation (RRI) framework, aiming to achieve high-precision urban flood simulations that account for sewer-system drainage capacities. Qin stayed at the National Institute of Water (INA) and the National University of Cordoba (UNC) to develop the model architecture. In the latter half of the trip, this basin-scale dual-drainage network model was successfully constructed for the Sarandi-Santo Domingo (SSD) River basin in Buenos Aires (Figure 1), and preliminary urban-flood simulations were executed (Figure 2).

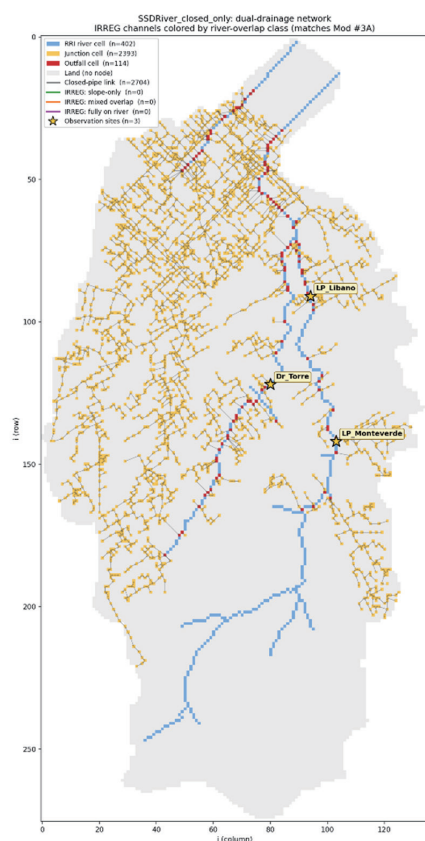


Figure 1: Dual drainage networks of Sarandi Santo Domingo River Basin in the RRI-Sewer Model

図1: RRI-Sewer モデルにおけるサランディ・サントドミンゴ (SSD) 川流域の下水道網 (二重排水系)

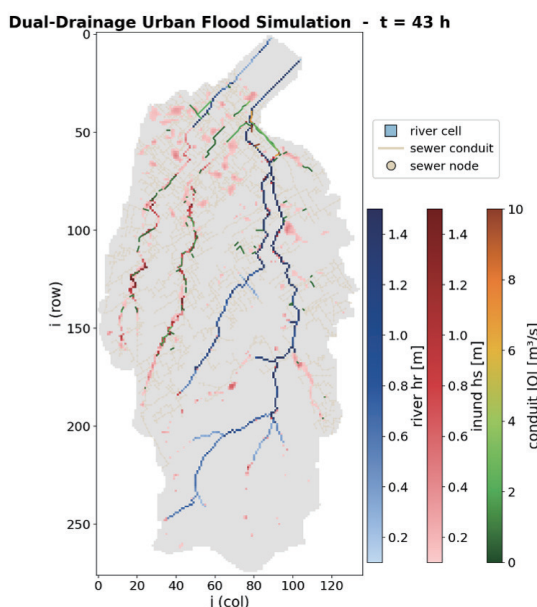


Figure 2: Preliminary test simulation of urban flood analysis for the SSD River basin using the developed RRI-Sewer model

図2: 開発された RRI-Sewer モデルを用いた SSD 川流域における都市洪水解析のテスト計算

Furthermore, field investigations were carried out in two hydrologically distinct basins to validate the model parameters and drainage configurations. In the lowlands of the SSD River basin, Qin and INA members inspected a drainage pumping station (Photo 1) and observed that illegally dumped waste accumulates at bridges and obstructs river flows, thereby raising water levels and amplifying local inundation risks (Photo 2). In the Suquia River basin in the Cordoba region, the team conducted field surveys covering the entire spectrum from mountainous headwaters to the urbanized area (Photo 3). They examined whether road systems built on steep terrain can function as floodways that drain pluvial water directly into the river. The survey revealed a critical issue: the absence of backwater prevention gates causes backflow from drainage outlets when the river water level rises (Photo 4). For

秦夢露専門研究員が、2026 年 5 月 11 日～6 月 7 日、SATREPS アルゼンチンプロジェクト、気象災害に脆弱な人口密集地域のための数値天気予報と防災情報提供システムにおける都市洪水氾濫モデルの開発および現地調査のため、アルゼンチンのブエノスアイレスおよびコルドバへ出張しました。本プロジェクトは今年度で 5 年目を迎えています。

今回の主な任務は、下水道システムの影響を考慮した高精度な都市洪水氾濫解析を実現するため、分布型降雨流出氾濫 (RRI) モデルに下水道ネットワークモジュールを新たに統合した RRI-Sewer モデルの開発です。秦専門研究員は、現地の国立水資源研究所 (INA) 及びコルドバ国立大学 (UNC) に滞在し、そのモデルの開発を行いました。出張後半には、ブエノスアイレスの都市河川サランディ・サントドミンゴ (SSD) 川流域を対象に、下水道網を含む二重排水系 (Dual Drainage Network) 流域モデルの構築に成功し (図 1)、都市洪水解析のテスト計算を実施しました (図 2)。

また、流域、河川、排水網の条件や流出解析パラメータの妥当性を検証するため、特性の異なる 2 つの流域でフィールド調査を実施しました。ブエノスアイレスの SSD 川の低地地帯では排水ポンプ場を視察し (写真 1)、不法投棄されたゴミが橋梁でせき止められたことで起こる河道閉塞が、水位上昇や氾濫リスク増大の原因となっている実態を確認しました (写真 2)。コルドバ地方の Suquia 川流域では、山間部から内水氾濫が頻発する都市域にいたる一連の調査を行い (写真 3)、急勾配な地形を利用した道路が洪水時に排水路として機能するかを視察しました。その結果、逆流防止ゲートがないために、外水位 (河川水位) 上昇時に道路上の排水口から逆流が生じる課題を把握しました (写真 4)。今後、開発した RRI-Sewer モデルを San Roque ダム下流流域へ適用し、外水と内水の相互作用を評価していく方針について現地の研究者と合意しました。

さらに、出張期間中、秦専門研究員は国立気象局 (SMN) にて洪水予測システムに関する技術協議を行ったほか (写真 5)、UNC での合同セミナー (写真 6)、およびブエノスアイレス大学 (UBA) での講演会を開催しました (写真 7)。ICHARM における洪水・土砂ハザード評価に関する最新の研究活動や RRI-Sewer モデルを紹介し、現地の若手研究者や学生への技術普及と機関間の連携強化を図りました。

future investigation, researchers on both sides agreed to apply the new RRI-Sewer model to the downstream reach of the San Roque Dam to evaluate the interactions between fluvial and pluvial hazards in the area.



Photo 1: Visit to a drainage pumping station in the lowlands of the SSD River basin
写真 1：SSD 川低地地帯の排水ポンプ場訪問



Photo 2: Inspection of river channel characteristics and solid waste dumping in the SSD River
写真 2：SSD 川の河道特性及びゴミ投棄状況の視察（INA の共同研究者同行）



Photo 3: Field survey of the upper Suquia River reach with counterparts from the National University of Cordoba (UNC)
写真 3：コルドバ国立大学（UNC）の共同研究者との Suquia 川上流域視察



Photo 4: Inspection of a pluvial flood-prone urban area in the lower Suquia River reach.

(Left: A drainage conduit inlet with structural retrofits including a flood barrier door and elevated windows designed to prevent inundation. Right: A roadside drainage outlet connected to the river channel. Although designed to drain floodwater directly from the road by taking advantage of the steep terrain, it faces a critical challenge in that drainage becomes restricted during high river water levels due to the absence of backwater prevention gates.)

写真 4：Suquia 川下流域の内水氾濫頻発地帯の視察

（左：排水管の流入部、および浸水を想定して設置された防水ドアや窓の嵩上げ構造；右：河道に接続された道路上の排水口。急勾配な地形特性を利用して氾濫水を道路から直接排水する設計となっているが、逆流防止ゲートが未設置のため、外水位（河川水位）上昇時には排水困難となる課題がある。）

During the trip, Qin also visited the National Meteorological Service (SMN) to hold a technical discussion on flood forecasting systems (Photo 5), facilitated a joint seminar at UNC (Photo 6), and delivered a talk at the University of Buenos Aires (UBA) (Photo 7). By introducing ICHARM's recent research activities on flood and sediment hazard assessment alongside the RRI-Sewer model, this mission successfully promoted technical capacity building among local young researchers and students while strengthening institutional collaboration.

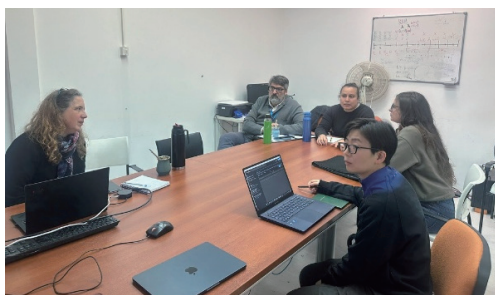


Photo 5: Technical discussion with counterparts at the National Meteorological Service (SMN)
写真 5：国立気象局（SMN）の共同研究者との技術協議



Photo 6: Joint seminar held at the National University of Córdoba (UNC)
写真 6：コルドバ国立大学（UNC）での合同セミナー



Photo 7: Invited talk at the University of Buenos Aires (UBA)
写真 7：ブエノスアイレス大学（UBA）での講演会



(Written by QIN Menglu)

Research trip for the Panama Grant-in-Aid Scientific Research project パナマ科研費研究の出張報告

ICHARM signed an MOU with the Technological University of Panama (UTP) on October 17, 2024. Pursuant to this MOU and to advance research funded by the Grant-in-Aid for Scientific Research, Senior Researcher USHIYAMA Tomoki and Research Specialist Ralph Allen ACIERTO visited Panama from June 15 to June 26, 2026. The research team was also joined by NAKAEGAWA Toshiyuki and KUDO Rei, the director and a senior research officer, respectively, of the Meteorological Research Institute of the Japan Meteorological Agency, and KITAHARA Daichi, a full-time lecturer at Keio University. During their stay, in addition to holding research meetings with counterparts at UTP, the Panama Canal Authority (ACP), and the Institute of Meteorology and Hydrology in Panama (IMHPA), they delivered lectures at UTP.

On June 16, the research team paid a courtesy call on Karia Arosemena, the director of International Affairs at the UTP President's Office. They also paid a courtesy call on senior officials at the Department of Physics and toured its laboratories. In the evening, they visited the residence of the Japanese ambassador for dinner.

On June 17, the team visited ACP and gave a presentation on their research. The team also collected the hard drive they left with ACP during their previous visit for recording radar data and provided a new hard drive to the institute. In the afternoon, they visited the local JICA office.

パナマ工科大学研究協力協定（令和 6 年 10 月 17 日締結）に基づき、科研費研究推進のため、6 月 15 日から 6 月 26 日まで牛山朋来主任研究員とラルファアチェルト専門研究員が、気象庁気象研究所の仲江川敏之部長、工藤玲主任研究官、慶応大学北原大地専任講師とともにパナマを訪問しました。滞在中は、パナマ工科大学、パナマ運河庁、パナマ水文気象局との研究打ち合わせの他、パナマ工科大学において修士課程学生向け講義を行いました。

ICHARM とパナマ工科大学（UTP）は 2024 年 10 月の訪問時に MOU を結びました。そのため、6 月 16 日に学長オフィスの Karia Arosemena 外務部長を表敬訪問しました。また、物理学部の幹部や表敬訪問し、実験室を見学しました。夕刻には、日本大使公邸を訪問し、夕食をいただきました。

6 月 17 日には、パナマ運河庁（ACP）を訪問し、研究紹介発表を行いました。また、前回預けてお

たハードディスクにレーダーデータを記録していただいたものを受け取り、さらに新しいハードディスクを預けました。午後には JICA 現地事務所を訪問しました。

6月18日にはパナマ気象水文局(IMHPA)を訪問し、研究紹介発表を行いました。また、レーダーデータをインターネット経由で受け取る方法を教わりました。

6月19日には、パナマ運河庁の気象観測施設を見学しました。パナマシティにある自動気象観測サイトでは、通常の雨量・気温・湿度・風向風速・全天放射の他、蒸発量測定用パン、超音波風速計、赤外放射収支計などによって、水面からの蒸発量測定その他、ペンマン法によるものなど複数の方法で蒸発量を測定していました。これは、パナマ運河の運用を行うための水を湛えるガソン湖の蒸発量が、運河の運用計画に対して非常に重要であるためであり、運河沿いの3か所にて測定しているそうです。さらに、近くの丘の上にあるレーダーサイトも見学しました。こちらのレーダーは高圧電源のトラブルによって現在は運用されておらず、カリブ海側のCoron市にあるレーダーのみが運用されています。

6月22日から25日まではパナマ工科大学物理学部の教室において、主に物理学部の修士課程学生を対象に特別講義を行いました。また、初日の22日には松永日本大使にも出席いただき、盛大な開会式を行いました。この4日間で、牛山主任研究員とラルフ専門研究員が2回ずつ講義を行い、ICHARMで行われている教育や研究成果を広めることが出来ました。

6月26日には、パナマ工科大学にて次期研究計画として考えているSATREPSプロジェクトに関する詳細を水理水文研究センターの皆さんに聞いていただき、その後 Jose Fabrega 所長、Reinhardt Pinzón 副所長とともに、今後のプロジェクトの進め方について議論を行いました。そして、26日の午後の便に乗り、28日に無事帰国しました。

パナマシティは、パナマ運河という巨大な収入に支えられた繁栄した都市という印象でした。JICA 現地事務所によると、パナマは中米では高所得国となっており、もう少しでODAの対象国から外れるということでした。

元気象研究所の職員で、現在は JICA シニアボランティアとしてパナマ工科大学において教授職についておられる楠昌司氏には、滞在中公私に渡りお世話になりました。

On June 18, the team visited IMHPA and gave a presentation on their research. They were also instructed on how to receive radar data via the internet.

On June 19, the team toured ACT's meteorological observation facilities. At the automatic weather observation site in Panama City, in addition to standard measurements of precipitation, temperature, humidity, wind direction and speed, and total sky radiation, evaporation from the water surface was also being measured using several tools such as an evaporation pan, an ultrasonic anemometer, and an infrared radiation budget meter, as well as through multiple methods, including the Penman method. Because evaporation from Gatun Lake, which holds water used to operate the Panama Canal, is a critically important factor in canal operation planning, these measurements are reportedly taken at three locations along the canal. The team also toured a radar site located on a nearby hill. This radar is currently out of service due to a high-voltage power supply issue, and only the radar in the city of Coron on the Caribbean side is currently operational.

From June 22 to 25, the team delivered special lectures primarily for master's students in UTP's Department of Physics. On the first day, June 22, a grand opening ceremony was held with the attendance of Ambassador MATSUNAGA Kazuyoshi of Japan. Over the four days, Senior Researcher Ushiyama and Research Specialist Acierto each delivered two lectures, successfully disseminating information about ICHARM's educational programs and research achievements.

On June 26, at UTP, the team made a detailed presentation on a SATREPS project, considered a potential next research initiative, to members of the Center for Hydraulics and Hydrology. Following this, they discussed approaches for implementing future projects with Director Jose Fabrega and Deputy Director Reinhardt Pinzón.

Panama City is a prosperous city supported by the substantial revenue generated by the Panama Canal. According to the local JICA office, Panama is a high-income country in Central America and is on the verge of being removed from the list of ODA recipient countries.

The research team was grateful for both professional and personal assistance they received throughout their stay from Dr. KUSUNOKI Shoji, a former employee of the Japan Meteorological Agency who is currently serving as a JICA senior volunteer and holds a professorship at UTP.



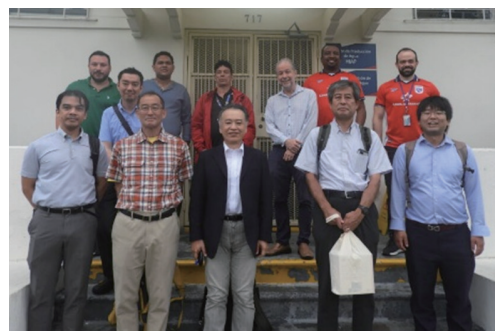
The research team with Karia Arosemena, the director of the International Affairs, UTP (first from right)
パナマ工科大学 Karia Arosemena 外務部所長を訪問



At the Japanese ambassador's residence
日本大使公邸を訪問



Research Specialist Acierto delivering a presentation at the Panama Canal Authority
パナマ運河庁にて研究紹介



At the Panama Canal Authority
パナマ運河庁前にて



At the local JICA Office
JICA 現地事務所を訪問



At the Institute of Meteorology and Hydrology in Panama
(IMHPA)
パナマ気象水文局 (IMHPA) を訪問



At the Panama Canal Authority's weather observation site: an evaporation pan (left) and a radar (right)
パナマ運河庁の気象観測器材を見学 左は蒸発測定パン、右はレーダー

(Written by USHIYAMA Tomoki)

● Training & Education

<https://facebook.com/icharmtrainingcourse/>



Educational program updates 教育・研修活動報告

May 16: Participation in the Tone River Basin Joint Comprehensive Flood Fighting Drill

On May 16, master's students participated in the 74th Tone River Basin Joint Comprehensive Flood Fighting Drill, held in the floodplain of the Tone River in Chiyoda Town, Gunma Prefecture. Beforehand, they received classroom instruction on flood fighting drills from Research and Training Advisor SHIMIZU Yoshihiko, who was also an evaluator for this flood fighting drill. They then observed and took part in the drill activities alongside many other participants, including local residents, flood



At the flood fighting drill site in the floodplain of the Tone River
群馬県邑楽郡千代田町河川敷にて

5月16日 利根川水系連合・総合水防演習視察

5月16日、修士学生は群馬県邑楽郡千代田町の利根川河川敷で行われた第74回利根川水系連合・総合水防演習に参加しました。本演習への参加に先立ち本演習の解説者でもある清水義彦研究・研修指導監から水防演習について座学で学んでいた学生たちは、水防団や地域住民、栃木県、宇都宮市、国土交通省、自衛隊、赤十字社など多くの関係者が参加して行われた演習訓練を視察、体験し、多くを学びました。

fighting corps, and personnel from Gunma Prefecture, Chiyoda Town, the Ministry of Land, Infrastructure, Transport and Tourism, the Self-Defense Forces, and the Red Cross Society. Through this experience, the students learned a great deal about how Japan prepares for flood disasters at the local level.

(Written by UCHIYAMA Koudai)

5月18日～20日 信濃川流域及びハッ場ダム視察

修士プログラムの一環で行われた今回の3日間の現地視察には14名の修士学生全員及び3名の博士課程1年生が参加し、まずは日本一の流路延長を誇る信濃川について、下流から上流砂防域までを視察しました。

1日目の5月21日午前は、新潟市にある国土交通省信濃川下流河川事務所を訪問しました。事務所の職員から信濃川下流部の排水が難しい地形特性と明治時代からの大河津分水路や関屋分水路などの河川改修事業の結果、新潟市が現在日本海側最大の都市に発展することに寄与してきたこと、また、2004年の新潟・福島豪雨での大災害をうけて上下流バランスに配慮しながら実施した総合的な河川改修事業により、2011年7月豪雨では発生した被害を大きく低減することができたことの説明を受けました。また午後は、燕市にある信濃川大河津資料館を訪れ、国土交通省信濃川河川事務所の職員から、大河津分水路の歴史と役割について説明を受け、泥田が多く低平地で浸水も長引き生産性が低かった越後平野が、大河津分水路によって日本一の穀倉地帯と言われる豊かな土地となったことを学びました。さらに、長岡市寺泊にある「にとこみえ〜館」に移動し、国土交通省信濃川河川事務所の職員から山地部を掘削して川幅を広げる現在の大河津分水路改修事業について説明を受けました。

2日目の5月19日は、長岡市の旧山古志村役場にある「やまこし復興交流館おたる」を訪問し、国土交通省湯沢砂防事務所の職員から2004年中越地震での被害と復旧・復興について説明を受けるとともに、芋川において天然ダムが発生した箇所などを案内していただき、整備された砂防ダムや遊砂池などの施設を見学しさらに、天然ダムにより埋まった家屋を震災遺構として残し、村の復興に役立っていることなどを学びました。また、大源太川第1号砂防堰堤を訪問し、長年の地道な砂防事業が、湯沢町が冬のスキーリゾート地としての発展だけでなく、夏のリゾート地としての発展にも寄与していることを学び、砂防事業の重要性を認識しました。

3日目の5月20日は、群馬県のハッ場ダム管理支所を訪れました。

May 18-20: Visit to the Shinano River basin and the Yamba Dam

Thirteen master's students and three first-year doctoral students participated in this three-day site visit, which was conducted as part of the master's program. First, they observed the Shinano River, the longest in Japan, from its lower reach to the upper erosion control area.

On the morning of May 18, the students visited the Shinano River Downstream River Office of the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) in Niigata City, Niigata Prefecture. The office staff explained how the topographical characteristics of the lower Shinano River make water drainage challenging. They also discussed river improvement projects conducted during the Meiji era (1868-1912), such as the construction of the Okozu and Sekiya diversion channels, and how these projects have contributed to Niigata City's development into the largest city on the Sea of Japan side. The students also learned about the effectiveness of comprehensive river improvement works implemented after the severe disaster caused by heavy rains over Niigata and Fukushima Prefectures in 2004. These measures, carefully balanced between the upper and lower reaches, greatly reduced damage due to heavy rains in July 2011.

In the afternoon, the students visited the Shinano River Okozu Museum in Tsubame City, Niigata Prefecture, where they received an explanation from MLIT Shinanogawa River Office staff about the history and role of the Okozu Diversion Channel. They learned that the low-lying Echigo Plain was once prone to prolonged flooding, resulting in muddy fields and low productivity. However, thanks to the diversion channel, the plain has been transformed into fertile land and is now known as Japan's number-one rice-producing area. The students then moved to the Nitokomieru Museum in Teradomari, Nagaoka City, Niigata Prefecture, where MLIT Shinano River Office staff explained the current Okozu Diversion Channel Improvement Project, which involves excavating the mountainous area to widen the river.



At the Shinano River Downstream River Office
信濃川下流河川事務所にて講義



At the Shinano River Okozu Museum
大河津資料館にて

On May 19, the group visited the Yamakoshi Reconstruction Exchange Center "Orataru," located in the former Yamakoshi Village Hall in Nagaoka City, where MLIT Yuzawa Erosion Control Office staff lectured on the damage caused by the 2004 Chuetsu earthquake and the subsequent restoration and reconstruction efforts. They were then guided to a part of the village by the Imo River, where a natural dam had formed due to the earthquake. There, they saw an erosion control dam

and a sediment trap, as well as houses once submerged by the natural dam. These houses have been preserved as relics of the earthquake disaster and now serve as an inspiration for the village's reconstruction efforts. The group also visited the Daigenta River Erosion Control Dam in Yuzawa Town and reconfirmed the importance of erosion control. Thanks to the long-term, steady erosion control project, including dam construction, the town has developed not only as a winter ski resort but also as a summer resort.



At the Daigenta-gawa Sabo Dam No.1
大源太川第1号砂防堰堤にて

On May 20, the group visited the Yamba Dam Management Branch Office in Gunma Prefecture. First, they received a lecture from staff of the Tone River Dam Integrated Management Office on the dam's history, construction, and importance to local communities. Afterwards, the students had the opportunity to take a close look at the dam's structure from crest to foundation, including its interior. They learned how the Yamba Dam project unfolded over more than 50 years. That long, complex process served as a powerful reminder that large-scale public projects require understanding and consensus among local communities, project operators, and other stakeholders, and that scientific knowledge is expected to play a central role to meet this requirement.



At the Yamba Dam
ハッ場ダム

初めに利根川ダム統合管理事務所の職員よりダムの歴史や建設、地域の人々にとっての重要性についてレクチャーを受けました。その後、ハッ場ダム堤頂部と堤体の内部及び下部を見学し、ダムの構造を間近で見る機会を得ました。学生たちは、ハッ場ダム事業が完成までにたどってきた50年以上もの長い道のりを学び、大型公共事業について地元と事業者、地元内部など様々な局面での理解やコンセンサスを得る必要性と、そのための科学的知見の重要性を再認識していました。

(Written by UCHIYAMA Koudai)

● Miscellaneous

Comments from the foreign visiting researchers and an internship student

外国人受け入れ研究員とインターンシップ生からのコメント

ICHARMでは、Hanz Lester C. Lunasさん（University of the Philippines Los Baños）とSineth Madusanka Priyasiriさん（京都大学大学院）を受け入れ研究員として受け入れました。また、Nesma Ahmed Ali Abdelwahab Arafa s さん（Faculty of Science, Geology department, Tanta University, Egypt）をインターン生として受け入れました。

ICHARMでの活動を振り返ってコメントをいただきました。

ICHARM accepted two foreign visiting researchers, Dr. Hanz Lester C. Lunas from University of the Philippines Los Baños and Mr. Sineth Madusanka Priyasiri from Kyoto University Graduate School of Engineering. In addition, we accepted one internship student, Dr. Nesma Ahmed Ali Abdelwahab Arafa from Faculty of Science, Geology department, Tanta University, Egypt.

They kindly shared the following messages reflecting on their research activities at ICHARM.

Dr. Hanz Lester C. Lunas

Duration: April 21-28, 2026

I am Hanz Lester Lunas, a research associate from the University of the Philippines Los Baños Interdisciplinary Studies Center for Water (UPLB IdSC Water) and a licensed agricultural and biosystems engineer in the Philippines. I visited ICHARM in April 2026 for a short-term internship under the project for Development of a Hybrid Water-Related Disaster Risk Assessment Technology for Sustainable Local Economic Development Policy under Climate Change in the Philippines (HyDEPP-SATREPS).

My stay at ICHARM was short, but I learned new things that would build my capacity as researcher who does hydrological modelling. The focus on my internship was to learn how to run the WEB-RRI model under Rasmy-sensei. This was an initiative to further conduct hydrological modelling on future projects, starting off from what the HyDEPP-SATREPS Project has established. This type of modelling is essential especially in the case of the Philippines since the country faces water-related disasters all year round. Also, to establish climate-resilient policies, an effective risk assessment tool should be created. During my stay, I was able to understand the data preparation for inputs such as extraction of LAI and FPAR and how to set up the runs of WEB-RRI. Although we couldn't fully run it on our local servers or set it up there due to limitations on resources, they were able to share the necessary resources and procedure for running the model.

Aside from technical aspects of the internship, I got to experience working with ICHARM members and observed the Japanese working environment, which is very different from what I am used to in the Philippines, but it helped me focus and be even more productive. I want to extend my sincerest gratitude to Rasmy-sensei for facilitating this internship and teaching me during this short-term internship. My gratitude also extends to Fujikane-san, who arranged my



Dr. Hanz Lester C. Lunas (forth from left, front row) with ICHARM staff at the entrance of the ICHARM building

application and other documents for coming here to ICHARM. I would also like to thank Nagumo-san, Ushiyama-san, Nonaka-san, Tamakawa-san, and Ralph-san for guiding me and for being so warm and accommodating during my stay. And lastly, to Ohara-sensei and Patricia-sensei, from the HyDEPP SATREPS Project, who were also part of ICHARM a few years back, for extending this kind of opportunity to me. Everyone at ICHARM has been very warm and welcoming to me, and I very much appreciate it. I wish I could stay longer and get to know everyone more. Still, I am confident that what I have experienced during my one-week stay here will be of great help in my future endeavors as an early-career researcher in the Philippines. I wish you all the best, and I look forward to future collaborations with ICHARM.

Dr. Nesma Ahmed Ali Abdelwahab Arafa

Duration: February 1-May 31, 2026



My visiting period at ICHARM was a valuable and memorable experience that helped me develop a new research direction. Before joining ICHARM, my research background was mainly related to groundwater management, GIS-based environmental assessment, and sustainability challenges in the Nile Delta, Egypt. During my stay, I had the opportunity to connect this background with ICHARM's advanced expertise in hydrological modeling and water-related disaster risk management. This experience allowed me to think more deeply about how integrated modeling approaches can support sustainable water resources management in a Mediterranean mega-delta affected by both climate change and human activities.

During my stay, I had several fruitful discussions with Prof. Toshio Koike and Prof. Abdul Wahid Mohamed Rasmy. These discussions helped me understand how to transform a general research interest into a clear and scientifically meaningful proposal. I learned how to define the research gap, connect local water-resource problems with advanced modeling approaches, and design a methodology that can provide useful outputs for both science and society. Based on this guidance, I began preparing a research plan titled "Integrated Assessment of Compound Water-Disaster Risks in the Nile Delta region under Climate and Anthropogenic Pressures," which focuses on climate-change impacts, drought, land-use change, water availability, and salinity risks in the Nile Delta, and is being finalized for future applications such as the JSPS Postdoctoral Fellowship.

One of the most important lessons I gained from ICHARM is that good research is not only about collecting data or applying a model. It is also about asking the right question, building a logical framework, and connecting scientific results with real needs in vulnerable regions. The Nile Delta faces complex challenges related to climate change and human-induced land-use changes, growing water demand, and rapid population growth. Together, these interacting climatic and anthropogenic drivers are expected to aggravate drought stress, threaten food security, and expand the scale and severity of disaster impacts across the region. I believe that the research direction developed during this visit can contribute to better understanding and management of these challenges.

I also deeply appreciated the atmosphere at ICHARM. The environment was professional, international, and very supportive for research development. During my visiting period, I became pregnant and later needed flexibility because of pregnancy-related health conditions. ICHARM kindly understood my situation and allowed me to continue part of my work from home. This support helped me continue reading, writing, and discussing my research plan while also taking care of my health. For me, this showed that ICHARM is not only a leading research center, but also a considerate and inclusive place where researchers, including women researchers, can continue contributing to science with dignity and support.

I am sincerely grateful to Prof. Koike and Prof. Rasmy, Dr. Fujikane, Nonaka-san, and all ICHARM staff for their guidance, kindness, and encouragement. My time at ICHARM helped me grow as a researcher and gave me a clearer vision for my future work. I hope to continue developing this research plan and to contribute to stronger scientific collaboration between Egypt and Japan in the field of climate-resilient water management.

Mr. Sineth Madusanka Priyasiri

Duration: June 1-19, 2026



Mr. Sineth Madusanka Priyasiri (left)
receives a certificate from Executive
Director Koike

A Valuable Research Experience at ICHARM

My name is Sineth Priyasiri, and I am a PhD student from Sri Lanka at Kyoto University. I belong to the Department of Civil and Earth Resources Engineering and the Hydrology and Water Resources Research Laboratory (Tachikawa Laboratory). My research focuses on flood-related climate and hydrological analysis, mainly in Thailand, especially in the Chao Phraya River Basin. Having the opportunity to join ICHARM for this internship was extremely valuable for me. Since my research area is Thailand, and ICHARM also conducts important work related to flood disaster risk reduction, climate-change impact assessment, and hydrological studies in Asia, this internship was one of the best opportunities for me to connect my PhD research with a broader

international research environment. I also felt a strong connection because I completed my master's studies at Mahidol University in Thailand, and my current research continues to focus on water-related challenges in the region.

During my stay at ICHARM, I had the chance to attend lectures, research meetings, seminars, and the annual conference held at GRIPS. These experiences helped me better understand how researchers discuss scientific problems, present their ideas, and connect technical research with practical disaster risk management. I also learned a lot about the research environment at ICHARM, especially the importance of collaboration, careful discussion, and applying scientific knowledge to real-world water problems.

Another meaningful part of this internship was meeting students and researchers from different countries, including Sri Lanka, Bhutan, Bangladesh, and Nepal. Through these interactions, I was able to learn about different research backgrounds and common water-related challenges faced by countries in Asia. I would like to sincerely thank Miyamoto Sensei, Rasmy Sensei, and all other sensei who kindly guided and supported me during this internship. I am also very grateful to the secretaries and staff members for their kind assistance and continuous support throughout my stay. Their warm welcome and helpful guidance made this experience smooth, comfortable, and meaningful.

This internship has motivated me to further improve my research skills and think more deeply about how my work can contribute to flood-risk reduction and climate-change adaptation. I am truly grateful to ICHARM and PWRI for giving me this valuable opportunity.

Business trips / 海外出張リスト

* April - June 2026

- April 11-18, MIYAMOTO Mamoru (April 11-17) and TAMAKAWA Katsunori, Nairobi, Kenya, to participate in CLOSING WORKSHOP for Enhancing Flood Resilience in the Tana River Basin of Kenya
- May 3-8, KOIKE Toshio, Paris, France, to participate in "the 27th HELP meeting" and "Roundtable on Governing for Infrastructure Resilience organized by OECD"
- May 11-June 7, QIN Menglu, Argentina, (1) to participate in the SATREPS Joint research organization meeting (2) to conducted site visit
- May 16-18, KOIKE Toshio, Corvallis, USA, to visit Oregon State University and discuss with the water community on global developments
- May 18-22, MIYAMOTO Mamoru, Seoul, South Korea, to participate in the 21st Working Group on Disaster Risk Reduction (WGDRR) and the Advisory Working Group (AWG) of the Typhoon Committee (TC)
- May 18-24, KOIKE Toshio (May 19-22), YAMASHITA Daiki and Shrestha Badri Bhakta (May 19-24), London, Ontario, Canada, to participate in ICFM10 (10th International Conference on Flood Management)
- May 24-30, KOIKE Toshio, Dushanbe, Tajikistan, to participate in 4th High-level International Conference on the International Decade for Action "Water for Sustainable Development", 2018-2028
- May 30-June 6, KOIKE Toshio, Paris, France, to participate in the 27th Session of the Intergovernmental Council of the Intergovernmental Hydrological Programme (IHP)
- June 14-28, USHIYAMA Tomoki (June 15-28) and Ralph Allen ACIERTO, Panama, (1) to participate in the study group meeting (2) to conducted site visit (3) to participate in the workshop
- June 23-27, MIYAMOTO Mamoru, Geneva, Switzerland, (1) to participate in the Meeting regarding the ASEAN project (2) to participate in the 80th session of WMO Executive Council (EC-80)

Visitors / 訪問者リスト

* April - June 2026

- April 1, A delegation from the Vietnam Academy of Science and Technology (VAST)
- To explore opportunities for collaboration
*See "Visit from the Vietnam Academy of Science and Technology" on page 22
22ページ「ベトナム科学技術院からの訪問」参照

Publications / 对外発表リスト

* April - June 2026

1. Journals, etc. / 学術雑誌 (論文誌、ジャーナル)

- OHARA Miho, MUNETA Yokomatsu and KURIBAYASHI Daisuke, Special Issue on Philippines SATREPS, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.285-286, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0285>
- Ralph Allen E. ACIERTO, USHIYAMA Tomoki, Patricia Ann Jaranilla-Sanchez and OHARAMiho, Downscaled Climate Projections for Rainfall Extremes and Drought in Pampanga River and Pasig-Marikina-Laguna-Lake Basin, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.287-298, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0287>
- Mohamed RASMY, HOMMA Koki, USHIYAMA Tomoki, Ralph Allen ACIERTO, OHARA Miho, KIKUMORI Yoshito and KOIKE Toshio, A Climate-Hydro-Crop Modeling Framework for Assessing Climate Change Impacts on Hydrometeorology and Rain-Fed Paddy Yield in the Pampanga River Basin, Philippines, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.299-313, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0299>
- AIDA Kentaro, OHARA Miho, NAGUMO Naoko and Patricia Ann Jaranilla-Sanchez, Application of Satellite Data and Google Earth Engine for Flood Assessment in the HyDEPP Project, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.314-323, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0314>
- NAGUMO Naoko, OHARA Miho and Patricia Ann Jaranilla-Sanchez, Community Classification Based on Landform Distribution and Flood Hazard Characteristics in Candaba Municipality, Pampanga River Basin, Philippines, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.324-334, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0324>
- Dhoz E. Arizobal, QIN Menglu, Glaiza J. Visitacion, Rubenito M. Lampayan, Ronaldo B. Saludes, OHARA Miho and Roger A. Luyun, Jr., Advancing Flood and Sediment Inflow Monitoring in Laguna Lake Through Basin-Scale Rainfall-Sediment Runoff Modeling, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.335-344, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0335>
- Glaiza J. Visitacion, QIN Menglu, Dhoz E. Arizobal, Rubenito M. Lampayan, Joan Cecilia C. Casila, Patricia Ann J. Sanchez, Roger A. Luyun, Jr. and OHARA Miho, Detecting Flood Hotspots Associated with Sediment Dynamics in Meandering Rivers Using Basin-Scale Rainfall and Sediment Runoff Modeling, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.345-357, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0345>
- TANAKA Tomohiro, Shi Feng, Maria Angeles Ocampo Catelo, KAWASAKI Akiyuki, MUNETA Yokomatsu and OHARA Miho, A Stylized Agent-Based Framework for Exploring Flood-Poverty Dynamics Among Rice Farmers: A Case Study of Candaba, Philippines, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.358-368, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0358>
- Zhaoxia Pang, OHARA Miho, NAGUMO Naoko, TANAKA Tomohiro and Patricia Ann Jaranilla-Sanchez, Social Impacts of Floods in the Pampanga River Basin: An Analysis from the Perspective of the SDGs, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.369-384, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0369>
- OHARA Miho, Patricia Ann Jaranilla-Sanchez and Fernando C. Sanchez, Jr., Interdisciplinary and Transdisciplinary Approaches in an International Research Project for Climate Resilience: The HyDEPP-SATREPS Project Between the Philippines and Japan, *Journal of Disaster Research*, 2026 Volume 21, Issue 2, ppt.385-396, April 1, 2026, <https://doi.org/10.20965/jdr.2026.p0385>

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

- Sunil Pokharel, Model analytical platform for high mountain hydro-meteorology, ICIMOD-ICHARM Joint Scientific Webinar, April 23, 2026
- HARADA Daisuke, Prediction of water, sediment, and driftwood runoff during extreme events using the Rainfall-Sediment-Runoff (RSR) model, ICIMOD-ICHARM Joint Scientific Webinar, April 23, 2026
- NAGUMO Naoko, Research on the river mouth: Multi-decadal landform evolution in the Sittaung River Estuary in Myanmar, ICIMOD-ICHARM Joint Scientific Webinar, April 23, 2026
- 牛山 朋来、小池 俊雄、清水 慎吾、若月 泰孝、甲信地方を対象とした格子間隔3kmのWRF-LETKFアンサンブル予報とMEPSの精度比較検証、気象学会2026年度春季大会、オンライン、2026年5月13日~16日
- Shrestha Badri Bhakta, Abdul Wahid Mohamed RASMY, TAMAKAWA Katsunori, JOSHI Sauhardra and KURIBAYASHI Daisuke, Approach for Assessing Land-Cover Changes using Satellite Imagery and their Impact on Risk of Flooding, ICFM10 (10th International Conference on Flood Management), London, Ontario, Canada, May 20-22, 2026
- DENDA Masatoshi, YAMASHITA Daiki and KURIBAYASHI Daisuke, Research on water-related disasters education for secondary students using metaverse and gamification, ICFM10 (10th International Conference on Flood Management), London, Ontario, Canada, May 20-22, 2026
- DENDA Masatoshi, YAMASHITA Daiki and KURIBAYASHI Daisuke, Research on social implementation of a new water-related disaster education matching between needs of research institute and needs of local government, ICFM10 (10th International Conference on Flood Management), London, Ontario, Canada, May 20-22, 2026
- Abdul Wahid Mohamed RASMY, HOMMA Koki, OHARA Miho, USHIYAMA Tomoki, Ralph Allen ACIERTO and KOIKE Toshio, Assessment of water and food security nexus under climate change using a seamless modelling framework, ICFM10 (10th International Conference on Flood Management), London, Ontario, Canada, May 20-22, 2026
- Shrestha Badri Bhakta, Abdul Wahid Mohamed RASMY, Sauhardra Joshi, TAMAKAWA Katsunori and KURIBAYASHI Daisuke, Exploring Flood Vulnerability and Social Inequality in the West Rapti River Basin, Nepal, JpGU-AGU joint meeting 2026, Makuhari Messe, Chiba, Japan, May 24-29, 2026

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)

- OKADA Tomoyuki and TAKEGAWA Shinya, ICHARM Activity Report FY2024, Technical Note of PWRI No. 4469, May 29, 2026, <https://thesis.pwri.go.jp/files/2735577126a163f3889367.pdf>
- 岡田 智幸、武川 晋也, ICHARM Activity Report FY2024 (日本語版)、土木研究所資料 第4469号、2026年5月29日、<https://thesis.pwri.go.jp/files/15707710836a163ecf246a8.pdf>

6. Other/ その他

- 栗林 大輔, ICHARM20周年記念誌 (暫定版)、2026年6月16日、https://www.pwri.go.jp/icharm/publication/pdf/2026/20th_anniversary_j.pdf
- KURIBAYASHI Daisuke, ICHARM 20th Anniversary Commemorative Volume (Tentative version), June 16, 2026, https://www.pwri.go.jp/icharm/publication/pdf/2026/20th_anniversary_e.pdf

Editor's Note

編集後記

記事にもありますように6月にICHARM20周年事業が実施されました。記念シンポジウム担当といったしまして、来賓の皆様、ご登壇頂いた皆様、会場ならびにオンラインで参加頂いた皆様、また、準備から当日の運営までご尽力頂いた運営スタッフの皆様、心より感謝申し上げます。2月末以降のイスラエル・米国とイランとの紛争もあり、開催が危ぶまれたこともありましたが、皆様の柔軟かつ細やかなご配慮と献身的なご協力があったからこそ、滞りなく終えることができました。

シンポジウムの成果取りまとめではAIを活用しましたが、AIによって作業が相当省力化されていると実感しています。AIを使った要約作業は、効率化だけでなく、記録として残しやすくなることによる組織の知識資産化の促進、さらに参加できなかった人にも重要な内容を伝えることが可能になる効果等が期待されます。今回の一連の取り組みでの議論等も少しでも多くの方に活用され、水災害に対するレジリエンス向上の一助になれば、と願っています。

As noted in this issue, ICHARM's 20th anniversary programs were held in June. On behalf of the organizing team of the commemorative symposium, I would like to express my heartfelt gratitude to distinguished guests, all speakers and panelists, everyone who participated either in person or online, and the operations staff whose dedication and hard work supported the event from the preparation stage through its successful execution. Due to the conflict involving Israel, the United States, and Iran that emerged in late February, there were times when holding the event became uncertain. Nevertheless, thanks to the flexibility, thoughtful consideration, and unwavering support of all those involved, we were able to complete the symposium and other events smoothly and successfully.

As I utilize AI for consolidating the outcomes of the symposium, I have come to appreciate how substantially it can reduce the required workload. Beyond improving efficiency, I have realized that AI also facilitates knowledge accumulation because it makes it much easier to summarize discussions and keep records of them. In addition, AI offers an effective means of communicating key messages to those who were unable to participate. I sincerely hope that the discussions and insights generated throughout the series of anniversary events will be widely utilized and will contribute, in some measure, to enhancing resilience to water-related disasters.



Participants in the ICHARM 20th Anniversary Symposium
ICHARM 設立 20 周年記念シンポジウムの参加者

ICHARM Newsletter Editorial Committee
FURUMOTO Kazushi

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