

NATIONAL WATER WEEK 2023

eWater Group supports National Water Week 2023

It's National Water Week, and we are supporting the Australian Water Association. This week is an opportunity to celebrate the work of our water professionals and organisations across Australia as well as continue to find ways to protect our most vital resource, water; now and into the future.

Michael Wilson, eWater Group CEO, said "Water is fundamental to all life on Earth and its sustainable management is critical to the wellbeing of our society and our environment. To achieve positive outcomes across all

sectors – food security, energy security, climate change, biodiversity and ecosystem health, and disaster management – water security is paramount.”

“eWater Group and its divisions proudly support National Water Week, and join in with the Australian Water Association, through our work, to help communities throughout Australia and in developing countries across the globe, manage their water more sustainably.”

eWater Group is committed to the pursuit of sustainable management of water resources through the development and sharing of best practices, capabilities, and knowledge of Australian water expertise, nationally and globally.

We develop and deliver Australia’s National Hydrological Modelling Platform (eWater Source) on behalf of all Australian governments; and deliver international water development programs on behalf of the Department of Foreign Affairs and Trade, including the flagship, Australian Water Partnership.

Together, we are united by water.

Learn more about National Water Week >

<https://sbee.link/83qetn9mwv>

Learn more about eWater Group and its divisions >

<https://sbee.link/gu6a4pnvt8> and <https://sbee.link/9btxrnjp8q>

MEKONG RIVER COMMISSION REGIONAL STAKEHOLDER FORUM

eWater Group attends the 13th MRC Regional Stakeholder Forum

The impact of climate and human activities in the Mekong River Basin continues to have a detrimental impact on the lives of millions of people and communities in the region and requires experts across government, the private sector and community organisations to work together for a sustainable future.

eWater Group was delighted to participate in the recent 13th Mekong River Commission Regional Stakeholder Forum, in Luang Prabang, Lao PDR, with representation from Trudy Green, Hydrology and Partnerships Lead, and Dr Paradis Someth, Principal Hydrologist.

A highlight of the forum was the release by the Mekong River Commission and Lancang-Mekong Water Resources Cooperation Center (LMC Water Center) of the Phase 1

findings on Changing Hydrological Conditions of Lancang-Mekong River Basin and Adaptation Strategies. We congratulate the MRC and LMC on this significant achievement.

For eWater, the Forum provided an opportunity for all stakeholders to contribute to the outcomes of the Joint Study and engage in insightful conversations with our partners in the Mekong.

Trudy Green, Hydrology and Partnerships Lead, said:
“Attending the workshop was a fantastic opportunity to understand the diversity and complexity of issues in the Mekong Region and will allow eWater Group to continue to improve and refine the technical support we provide to the MRC and the Member Countries.”

At this regional forum, we were excited to reconnect with our valued Mekong partners, including Mekong River Commission Secretariat, National University of Laos (NUoL), Lao Department of Water Resources (DWR), Laos National Mekong Committee (LNMC), Cambodia National Mekong Committee (CNMC), Thai Office of the National Water

Resources (NOWR), and Viet Nam National Mekong Committee (VNMC).

eWater Group is thrilled to offer a world-class water resource modelling tool, empowering transboundary water management.

Learn more about the Forum >

<https://www.mrcmekong.org/news-and-events/consultations/regional-stakeholder-forums/mrc-rsf-13/>

To read more about the MRC Joint Study >

https://www.mrcmekong.org/news-and-events/news/pr-20230910/?fbclid=IwAR3wAhpldrLocWbuwyksmsMcER3S5efCBwfO6hd-kgBD3wQTjHU-JLSP_Vs

MEET SHREYA GYAWALI, AUSTRALIAN WATER PARTNERSHIPS

Shreya Gyawali, Senior
Program Officer,
Australian Water
Partnerships

“Our work directly impacts people’s lives. Knowing that my day-to-day contributions at work could positively influence someone’s life is a significant motivator to keep going.”

It is this kind of thinking that makes eWater Group an exceptional place to work. Our people – like Shreya Gyawali – bring a wealth of knowledge and experience to our

organisation but it is the willingness to making a difference in the lives of vulnerable people and their communities that is truly exceptional.

We are an organisation dedicated to delivering water management expertise and tools in Australia and internationally through our three divisions – the Australian Water Partnership, eWater Solutions, and Mekong Water Solutions.

The Australian Water Partnership (AWP) is a key part of Australia's support for sustainable water resources management in South Asia, the Mekong region, and the Pacific. Working closely with the Department of Foreign Affairs and Trade, AWP supports a range of activities that draw on Australian expertise to respond to assistance from our international partners and governments.



In her role as AWP's Senior Program Officer, Shreya has a whole raft of responsibilities including managing and engaging on international and national events for AWP but just as important, if not more, leading the Gender, Equality, Disability, and Social Inclusion (or GEDSI) portfolio within AWP.

Shreya works with the AWP program team to better integrate GEDSI across all activities, as well as lead on internal policy reviews and implementation processes. It is one of our critical roles within AWP.

“AWP’s commitment to advancing Gender Equality, Disability, and Social Inclusion (GEDSI) in partnership with different organisations in Australia and overseas is a significant reason of why I work at AWP.”

Water has always played a big role in Shreya’s life. Having worked in the development sector in her hometown of Kathmandu, Nepal, prior to moving to Australia to complete her Master’s in Applied Anthropology and Participatory Development from the Australian National University Shreya participated in field visits to see first-hand the impacts of water stress on women and girls.

“Issues like water insecurity disproportionately impacts women and girls. It impacts their education, hygiene, and safety, and as they usually have the responsibility of fetching water- also impacts their time. These issues are embedded

within cultural contexts and social norms and become further exacerbated in the face of climate change as well as in crisis scenarios.

“Water issues are personal issues for women and girls. Creating change in this space will mean having the ability to influence people’s attitudes, beliefs, and behaviour – which is what I would like to do, and being in this sector is a great platform to meet like-minded people and create momentum for that change.”

Now working at AWP for nearly two years, Shreya has represented AWP at major national and international events, including SIWI World Water Week 2022 in Stockholm where she collaborated with water leaders from Australia and the region to share knowledge and successes. She is on her own leadership journey as one of AWP’s Young Water Professionals and brings her passion and unique perspective to her work every day.

“Being a Nepali woman with my own cultural experiences and having seen the lived realities of people back home, I am aspiring to be a change agent and champion for people in

my community, and I see this as a step towards making that happen.”

“There is a crucial need to recognise and accept the different forms of knowledge that inform solutions to the challenges of climate change; cultural, Indigenous, technical, and local knowledge and find ways to better integrate them together.”

It is this commitment to changing how we engage with communities, develop policies and programs on water management, and think more strategically about our water resources, which remains central to the work of AWP and eWater Group.

Who are we?

eWater Group is owned by the Australian Federal, State and Territory governments to further develop Australia’s world-class modelling tools and to provide support and training nationwide and internationally.

Our organisation is comprised of three divisions – eWater Solutions, the Australian Water Partnership and the Mekong

Water Solutions to deliver water management solutions for communities in Australia and overseas.

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MEET: USMAN KHALIL HYDROLOGIST

The people who work at eWater Group are leaders in their fields, bringing years – in many cases decades – of experience from a diverse range of industries, including science and technology, international development,

academia, public policy, project management, sales, and more.

We are an organisation dedicated to delivering world-class water management expertise and tools in Australia and internationally through our three divisions – eWater Solutions, the Australian Water Partnership, and Mekong Water Solutions.



Usman Khalil encapsulates many of the diverse skills and experience we have across the eWater Group. As one of our hydrologists, Usman works closely with one of our most significant partners, the Murray Darling Basin Authority,

where he contributes to the review of water resource plans and the implementation of the Basin Plan.

For Usman, our partnership with MDBA is a critical one in which he provides hydrologic and statistical analysis for several major rivers in the Murray-Darling Basin to help inform water allocation and management policy, as well as analysis of water flow and rainfall data insights.

This collaborative partnership with the Murray-Darling Basin Authority is an example of our support for the use of eWater Source, Australia's National Hydrological Modelling Platform to support water management.

Usman holds a PhD in Water Resource Engineering from the University of Wollongong, where he focused on Queensland Australia's Coastal flood governance and water management in Queensland. He also has an MSc in Hydraulics and Irrigation Engineering and a BSc in Civil Engineering.

Usman's passion for hydrology and finding sustainable water management solutions was solidified during the completion of his BSc in Civil Engineering in Pakistan in late 2010. In that

year, approximately one-fifth of Pakistan's total land area was devastated by floods from heavy monsoon rainfalls, causing casualties and destruction of property, infrastructure, and land.

“That was the time I decided to contribute to sustainable water and flood management and decided to focus my career on the field of Water Resource Engineer to play my role in it.”

And it is this passion that led Usman to join eWater Group, where he works closely with our government owners and partners with knowledge and understanding of their bespoke challenges and provides guidance on using our technology and expertise in hydrology to find solutions.

Usman brings 13 years of knowledge and experience to eWater Group. Usman has been involved in a diverse range of projects and activities, including dam design, hydrological modelling, hydraulic modelling, hydrodynamic modelling, transboundary cooperation, academic teaching, sustainable development and planning, and climate-resilient water plans.

“I value my work at eWater and appreciate the diverse opportunities that it offers in several ways, including the diversity of work, the ability to shape the direction of Australia’s hydrological modelling tools, the close partnerships with government owners and many of Australia’s leading water managers, and the collaborative work culture.”

“I enjoy my role as it enables me to share knowledge and expertise in water management to meet national and international needs.”



These national and international needs include the growing need to address water scarcity and sustainability, which continues to be a current and emerging challenge for Australian governments and partners, as well as international governments and institutions.

How we address these challenges relies on the hydrologists,

academics, software developers, sales, project managers, public policy, and water industry experts and innovators who make up eWater Group.

For Usman, the key to finding solutions is through eWater Group's products and software that "help customers make informed decisions in water modelling, scarcity, and sustainability. We are helping to bridge the gap between complex data and actionable information. This enables decision-makers, stakeholders, and policymakers to understand the implications of their choices, identify optimal solutions, and prioritize investments that promote water sustainability."

"By providing accurate assessments, modelling different scenarios, and promoting sustainable water management practices, we are contributing to informed decision-making, efficient resource allocation, and the long-term sustainability of water resources in the country."

Who are we?

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Territory governments to further develop Australia's world-class modelling tools and to provide support and training nationwide and internationally.

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MEET DR. JIN WANG, SENIOR HYDROLOGIST

The people who represent our organisation are exceptional. They bring years – in many cases decades – of experience from a diverse range of industries, including science and technology, academia, public policy, project management, sales, and more. Our workforce is world-class experts and leaders in their respective fields.

We are an organisation dedicated to delivering water management expertise and tools in Australia and internationally through our three divisions – the Australian Water Partnership, eWater Solutions, and Mekong Water Solutions.



Introducing Dr. Jin Wang, who has been working as our Senior Hydrologist for the past five years and counting, plus two decades of experience in the industry.

Jin, who works within the eWater Solutions teams, brings an enormous amount of experience to our organisation, including four degrees (*B.Eng., M.Eng., M.Sc., and Ph.D.*) in Hydrology and Water Resources from institutions within Australia, Ireland, and China.

Dr. Wang's doctoral research revolved around the development of a computer-based spatial decision support system for flood forecasting and warning.

In addition to his pursuit of higher education, Jin also worked at the University of Melbourne, consulting firm GHD and the Australian Government Department of Climate Change, Energy, the Environment, and Water. It is this industry experience, coupled with his education, that has actively contributed to the advancement of his hydrological knowledge and practices.

His love for hydrology was spurred by a serendipitous incident where he encountered his cousin, who inspired Jin with his interest in hydrology and water engineering, leading Jin to change his university application and apply for water engineering instead of a career in medicine. This decision was reaffirmed soon after when his father encountered challenges when a geologist failed to detect a concealed sandy layer at a dam closure site, which led to an accelerated flow and subsequent difficulties for hydrologists in managing the flow velocity at the narrow closure site. This

served as an indelible inspiration, propelling Jin to pursue a comprehensive academic exploration of hydrology and geology.

“I believe that these disciplines would equip me with the requisite skills to address and mitigate such critical issues effectively. The immense gratitude I harbour for this serendipitous path is surpassed only by the profound satisfaction and fulfillment I derive from the continuous study and professional engagement within this fascinating field.”

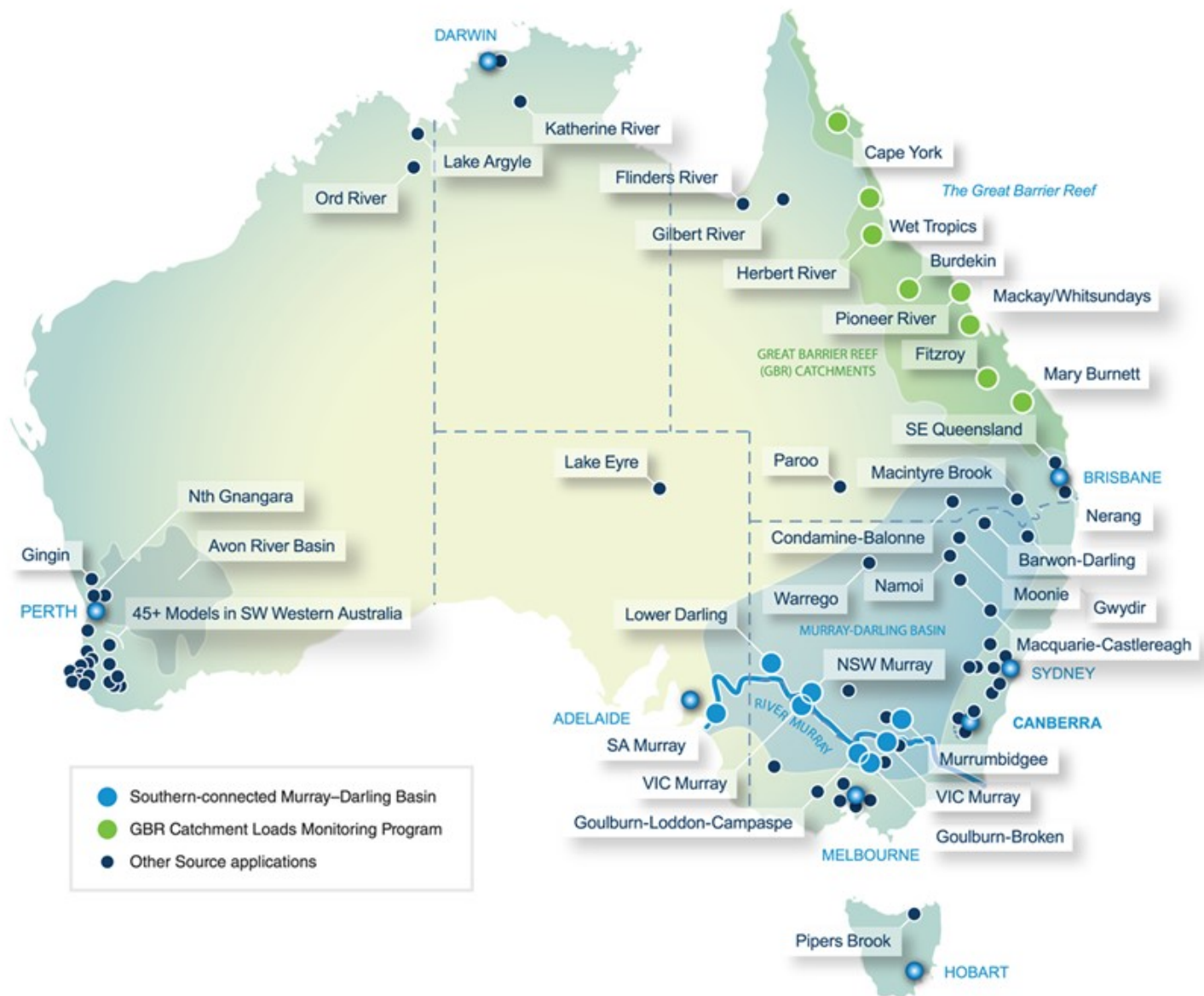
It is Jin’s profound proficiency in hydrological and stormwater analysis, water resource management, dam design, hydraulic models, and more, that led to joining eWater Group.

“eWater is an excellent organisation for pursuing my career interests. Its primary objective is to establish and disseminate Australia’s world-class modelling tools while concurrently offering expertise and a community of practice to support their implementation both within Australia and globally.”

“Consequently, I can leverage my diverse skill set to address complex problems and provide support to fellow professionals in water modelling. The collaborative work environment at eWater, coupled with its associated modelling tools community, fosters a deeper comprehension of the application of our tools, and the opportunity to contribute to feature development enhances the overall allure of the work.”

It is commitment like Jin’s to sharing knowledge and expertise with his colleagues, our owners, and partners which enables eWater Group to be a leader in water management in Australia and internationally. Our people are central to maintaining and developing Australia’s internationally respected water modelling tools and provide support, program delivery, and training both in Australia and overseas.

Jin’s role as a senior Hydrologist sees him working on diverse projects and solving our clients’ water-related issues using our platforms, eWater Source and eWater MUSIC.



“As part of my role, I deliver technical support by applying hydrological principles and eWater software to address client issues, including effectively identifying, investigating, and resolving problems within the existing product. I also provide comprehensive guidance to support clients to use our products to tackle their water management challenges.”

“I find immense gratification in integrating my expertise in hydrology, GIS, and computer science to contribute to the advancement of the eWater Source application and facilitate feature development.

“Through the collaborative application of specialised knowledge, services, and unwavering support, I am humbled by the opportunity to address complex challenges and offer innovative solutions. This pursuit of excellence not only fuels my professional growth but also underscores the meaningful impact of my contributions to shaping the hydrological landscape.”

Dr. Wang is part of a dedicated group of hydrologists and software developers, and the wider organisation, who work diligently to support our owners, partners and the water management sector with tools, knowledge, and expertise to find solutions to many of the challenges facing our environment and the impact of climate change, in Australia and internationally.

We face many challenges ahead of us. According to Dr.

Wang, how we address these challenges in water modelling must include “integrating with other existing models (e.g., groundwater models) and providing capacities to consider future development in the relevant disciplines such as climate change and environmental accounts.”

It is this experience and understanding which helps eWater Group provide expert knowledge and understanding of water resource management to the Australian Government, State and Territory Governments, our Australian and international partners, as well as leading water experts and leaders.

Who are we?

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TRAINING FOR SOFTWARE DEVELOPMENT TEAM

AWS Immersion Day on Containers

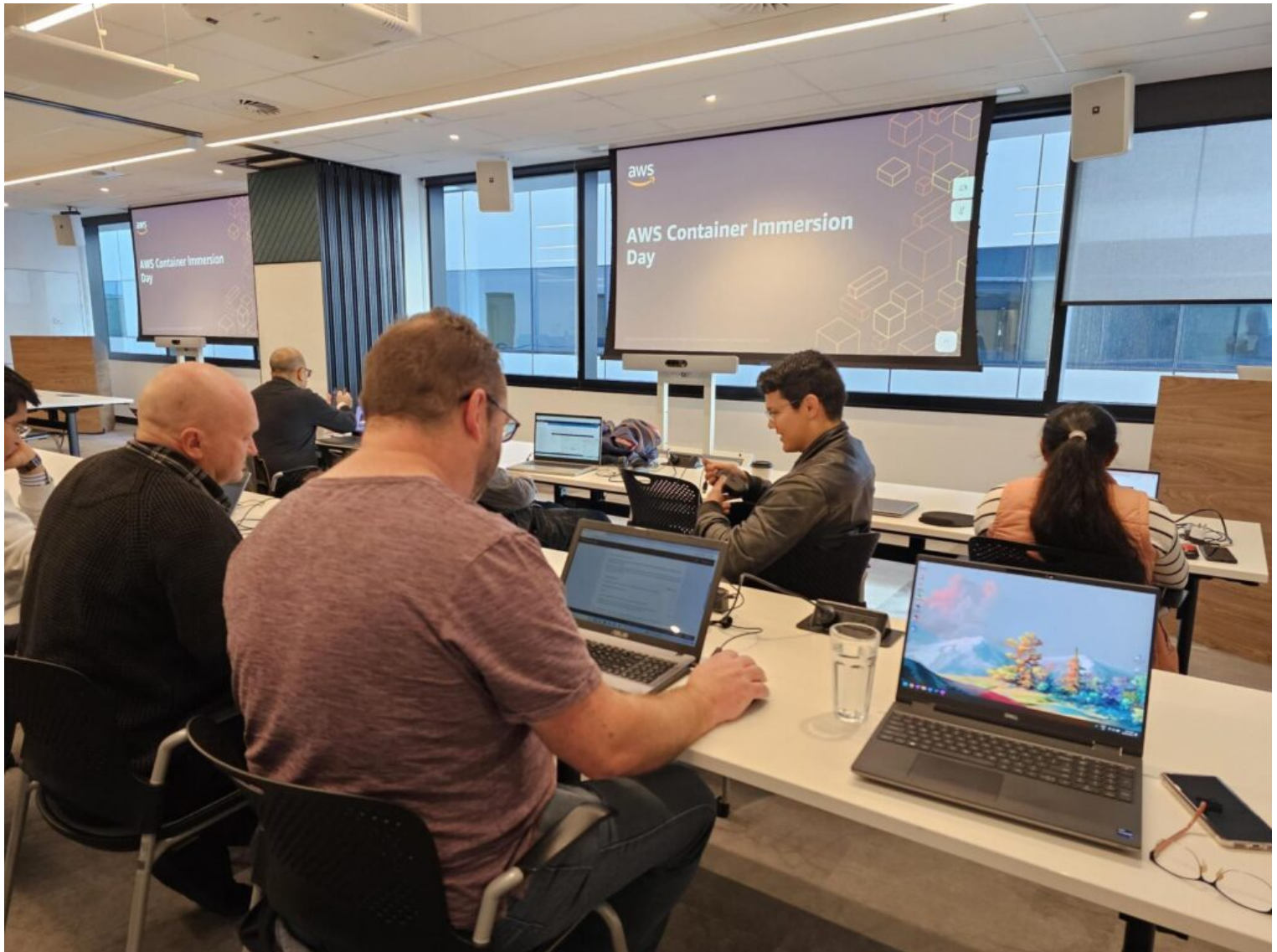
Our software development team attended an Amazon Web Services Immersion Day on Containers, part of our ongoing focus to ensure that modernized versions of eWater's Source software continue to best support Australian Governments as they continue to evolve their hydrological modelling capabilities.

We're not talking Storage World or Marie Kondo; these Containers are packages of software containing all of the necessary elements to run in any environment. In this way, containers virtualise the operating system and run anywhere, from a private data center to the public cloud or even on a developer's personal laptop.

Containerisation is a powerful way to ensure seamless application operation and availability during updates, load spikes, and partial error conditions. Running containers in the cloud allows companies to build robust, scalable

applications and services.

This training will help our amazing team of developers to support new projects and new ways of leveraging the power of eWater's Source hydrological modelling tool.



NATIONAL SCIENCE WEEK 2023

Celebrating Australian science and technology and the power of people

The sustainable management of water is critical for all life on earth and the wellbeing of our society. As the driest inhabited continent on earth, Australia is well-placed to understand the complexity of protecting and managing our water resources and has become an internationally recognised leader in water policy and management.

We are marking National Science Week 2023 by acknowledging and celebrating the people and science

behind the work we do at eWater Group.

We are committed to the pursuit of sustainable management of water resources through the development and sharing of best practices, capabilities, and knowledge of Australian water expertise, nationally and internationally.

Our people are hydrologists, academics, software developers, sales and project managers public policy and water industry experts and innovators who are all here to find water management solutions for the benefit of all people and their communities.

We develop and deliver Australia's National Hydrological Modelling Platform on behalf of all Australian governments through eWater Solutions; and deliver international development programs on behalf of the Department of Foreign Affairs and Trade, including through the Australian Water Partnership and Mekong Water Solutions.



THE
AUSTRALIAN
WATER
PARTNERSHIP

Mekong
water
solutions

AN AUSTRALIAN
GOVERNMENT
INITIATIVE

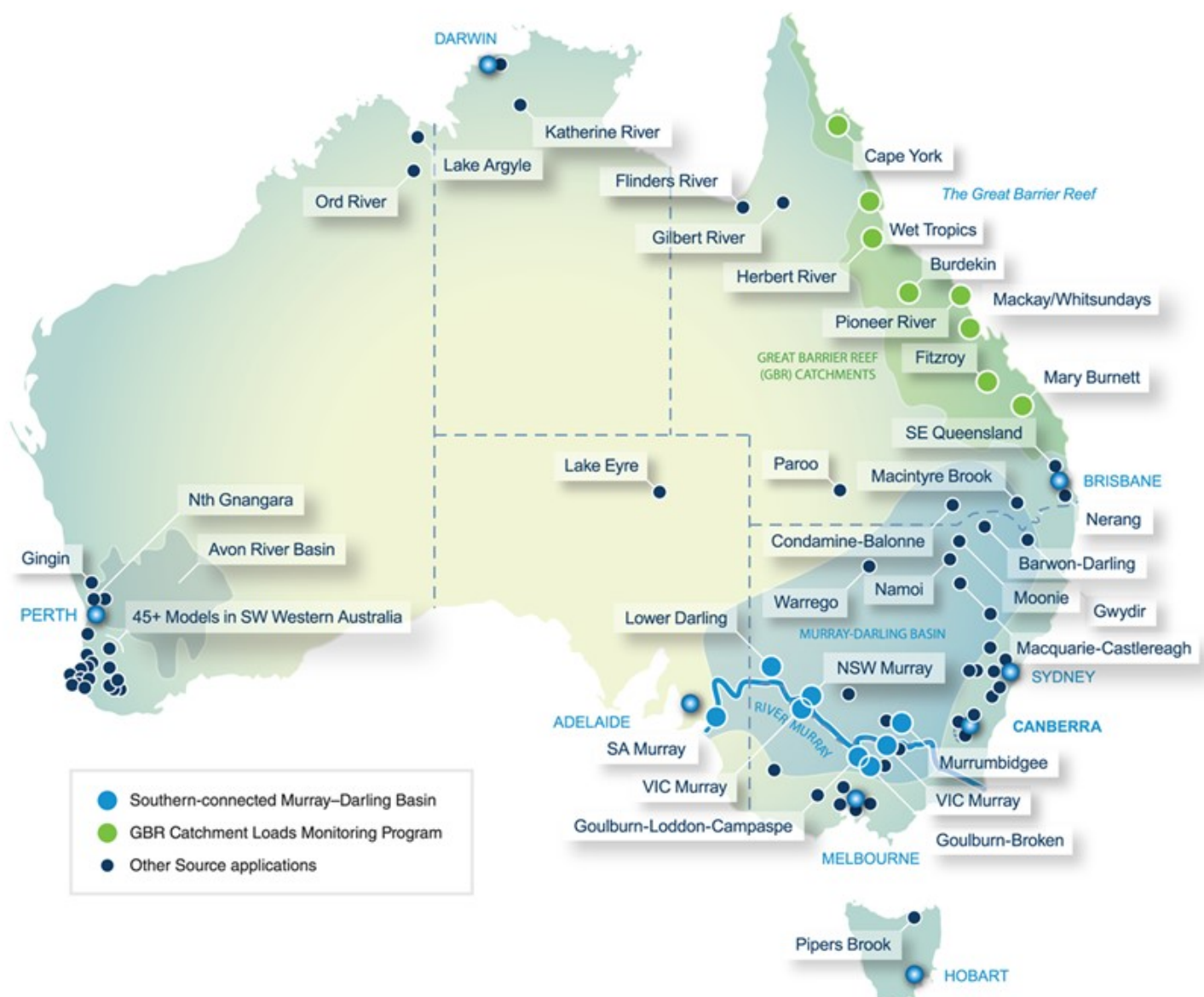
We provide creative, science-based, and trusted water management expertise, products and services for people, communities, livelihoods, and environment impacted by many factors, including climate change.

From our beginnings as a Cooperative Research Centre Program to the organisation we are today; eWater Group has evolved to occupy a unique place in Australia's water management and international cooperation ecosystem, including custodianship of the eWater Source platform.

eWater Source supports integrated planning, operations, and governance from urban to catchment to river basin scales including taking human and ecological influences into account. It accommodates diverse climatic, geographic, water policy and governance settings for both Australian and

international climatic conditions.

eWater Source is the largest scientific software in use by the Australian Government, blending science insights with technological innovation to maintain the National Hydrological Modelling Platform.



Our world-class platform translates water-science outcomes

into software to enable all Australian governments and our partners to harness data-derived insights and use scientific outputs in their decision making.

eWater Source has been applied extensively in a wide range of real-world water use situations, both in Australia and internationally, supporting the management of rivers in Australia, the Mekong region, across South Asia, Africa, and the Middle East.

Alongside eWater Source, we also have eWater MUSIC and Urban Developer models which are designed to manage the interaction between various water supply systems as well as capture all water cycle components including rainfall and stormwater runoff, potable water, and the recycling / reuse of wastewater. These tools enable robust and reliable decision-making for secure urban water supplies.

To achieve positive outcomes across all sectors – food security, energy security, climate resilience, biodiversity and ecosystem health, and disaster management – water security is paramount. And as climate change accelerates the challenges, international cooperation to share learning is

increasingly important.

A key part of Australia's support for climate resilient water management in South-East Asia, South Asia, and the Pacific, is through our work within the Australian Water Partnership, which works closely with the Department of Foreign Affairs and Trade and over 200 Australian partners across the public and private sectors.



The Australian Water Partnership supports a range of activities that draw on Australian expertise to respond to assistance from our international partners and governments, including on river basins, irrigation modernisation, integrated urban water management and environmental water.

This week gives cause for us to acknowledge this collective

commitment as an organisation, and individuals, to finding water management solutions which is why we want to acknowledge and celebrate National Science Week.

As the impacts of climate change and other environmental factors continue to grow and exacerbate water security, eWater Group is best placed to provide support, program delivery and training for the protection of our most precious resource.

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Affairs and Trade, and research groups and institutions to provide expertise and support for sustainable water management solutions in Australia and internationally, now and into the future.

A RECAP ON MODSIM 2023

With MODSIM 2023 now done, we are taking the opportunity to recap our time at this critical conference and how important it is for modellers from a diverse range of fields to showcase the latest science and technology and how it is applied by the global water modelling and community.

Last month, Darwin played host to the 25th International Congress on Modelling and Simulation – otherwise known as MODSIM – where modellers from across Australia descended on the balmy city to talk about water modelling, including

the use of emerging technologies to improve modelling practice and the use of modelling to find new solutions to solve the growing impact of climate change in our waterways and environment.



eWater Group Hydrologists, Dr Jin Wang and Sudeep Nair represented our organisation at MODSIM, where we were a sponsor, to facilitate sessions related to hydrological modelling and showcase the new functionalities of Australia's National Hydrological Modelling Platform, eWater Source, and how it helps water managers to meet the changing needs in water resources management.

Sudeep said "it was great to see how various users unravel the many facets of eWater Source and understand how it is helping the users to achieve their objectives. We heard their

experiences and feedback, which helped us to understand the strength of Source as a hydrological modelling tool and areas for potential enhancement.”

“MODSIM was also a great opportunity for us [hydrologists] to introduce eWater Source to a wider audience who were not so familiar with the tool, and a chance to update ourselves on the latest trends and techniques in water and environmental modelling.”

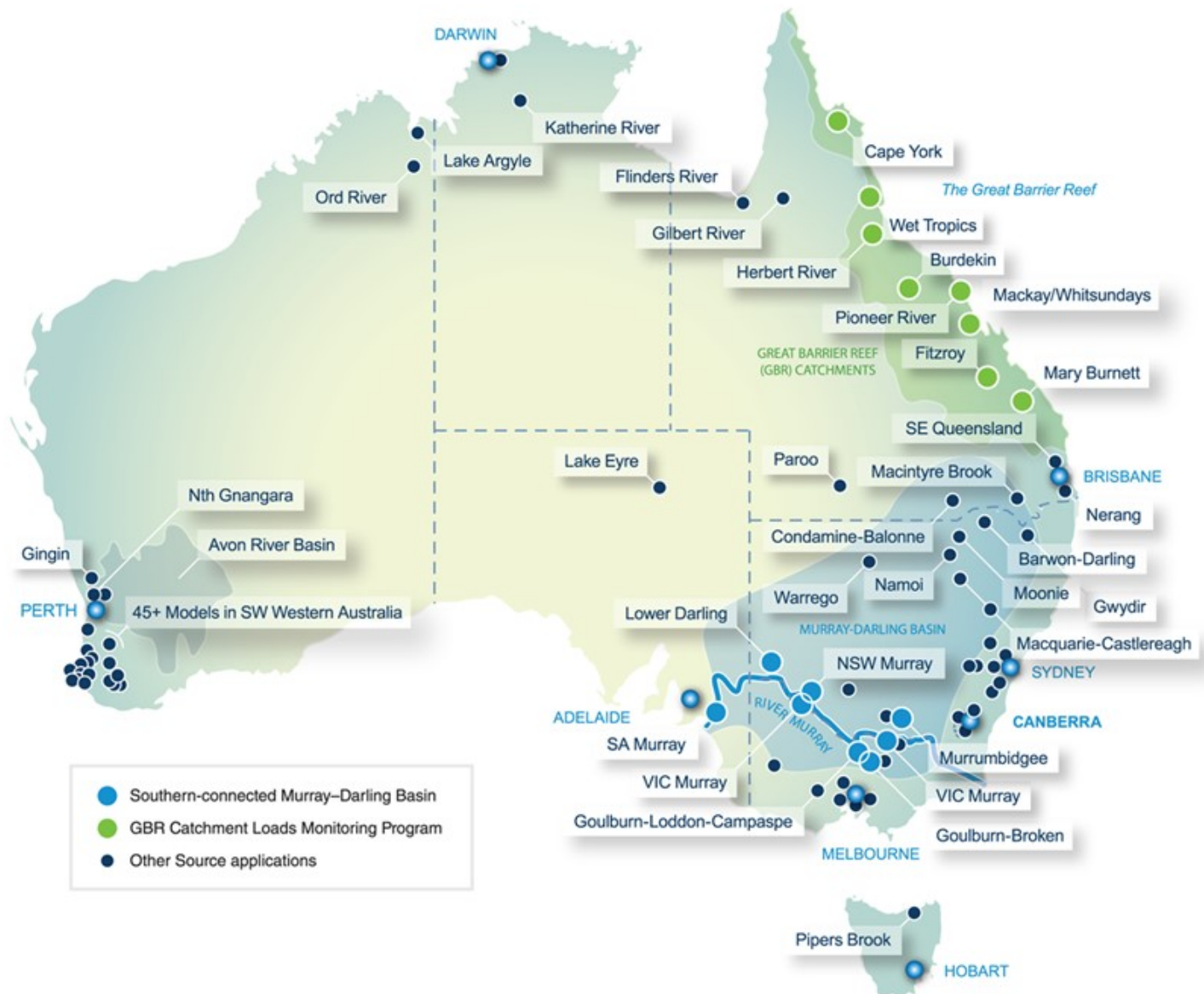
One of the more interesting observations from our hydrologists was from other presenters at the conference who demonstrated the versatility and agility of Source as a hydrological modelling tool and how modellers were using it for bespoke applications.



“One of the many advantages of eWater Source is that it can handle both water quantity and quality aspects and has many functionalities specific for Australian purposes,” Sudeep said.

With any science-based software and technology tools, there is also room for improvements in areas such as stability, accuracy, and performance improvements, and eWater

Group is diligent in improving our software platforms to enable our owners, partners and water experts have an enriched user experience.



For our hydrologists, Dr Wang and Sudeep Nair, MODSIM provided a great back drop to generate interest and discussion on hydrologically modelling methods in general

and eWater Source in particular.

Both Sudeep and Dr Wang co-presented a session with Rachael Holden from Power and Water Cooperation: Providing Water for All: Modelling to Improve Water Security for Communities, the Environment and Industry, which helped spearhead conversations on the impact of water modelling to inform decision-makers and the role of eWater Source.

To read the full abstract from Sudeep Nair
> <https://lnkd.in/eDzNiybjhhttps://ewater.org.au/3443-2/> and
for Samira Azadi (*who was unfortunately a last-minute cancellation*) > <https://ewater.org.au/3443-2/>.

Conferences like MODSIM play a significant role in the water space. It is an avenue for learning, networking, and informing of the latest research and modelling outcomes in Australia and beyond; and an important opportunity for eWater Group and our people to showcase who we are and what we are doing to address the new challenges in the hydrological modelling realm.

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MEET ROHAN KENT, AUSTRALIAN WATER PARTNERSHIP

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As the AWP Program Lead, Rohan Kent plays a critical role in our international program of activities, overseeing a diverse range of projects across the Indo-Pacific in river basin and water resources planning, urban and rural water, agriculture, flood and drought management, and climate resilience.

Prior to joining AWP in 2021, Rohan worked across several sectors, including health, education, humanitarian and international development, and Indigenous community programs, including Save The Children Australia as its Deputy Humanitarian Director, and at the Australian Civil-Military Centre in its Concepts and Capabilities Unit.

“Most of my career has been based around working with vulnerable communities through international development and a rights-based programming lens. Within these roles, I have worked closely with multiple stakeholders – many with differing or competing perspectives. This has helped me not only appreciate the need to take time to design projects carefully so there is not only a focus on sustainable outcomes but also ensure they are delivered in an efficient and effective way.”

“With any role or project, I believe effective communication cannot be underestimated; this helps to promote ownership and create a supportive environment around the project. And of course, it would be remiss of me not to mention how important accountability is within the project management

cycle and how it must be encouraged so responsibility for actions is ensured.”

In addition, Rohan has worked across several development and disaster settings, implementing integrated programs in the protection, WASH, food security and livelihoods, and health sectors in the Philippines, Fiji, Pakistan, Iraq, and South Sudan.



While bringing decades of experience to AWP and its

partners is nothing short of invaluable, it is Rohan's understanding of the development sector, together with his compassion for the needs of the world's most vulnerable people, that sets Rohan apart from others.

“Water security is a challenge that impacts us all. It's not just about the ability to provide for industrial, agricultural, recreational, energy, and domestic needs. While these are important, we also need to consider the integrity and sustainability of our surrounding ecosystems.”

“It's important that as Australians we continue to be involved in discussions around water security if we want Australia – and our neighbours – to enjoy continued sustainable development, the preservation of the environmental, and poverty reduction.”

“After all, as Australia, we have much to contribute given we have the privilege of having the oldest, continuing living culture in the world, who can share their knowledge and learnings on caring for water and waterways and promoting better water security.”

It is this commitment to finding solutions to real-world challenges facing communities impacted by climate change, access to water supply, and quality, that drives Rohan and his team to do more.

“Continuing the conversation doesn’t always mean we are the ones talking. Being present is important but so is acting with humility and patience in this space when we are engaging in conversation. My experience across the world in the aid and development sector has taught me to focus on ‘listening’ as well as to talk at the appropriate time.”

“We must listen to what rights holders and duty bearers’ needs are and work with them in partnership to drive innovative solutions and not just impose what we think they need upon them, no matter how good we think our solutions might be.”

“I remember listening to representatives from the Kaurna people at this year’s AWP Partners Workshop. They spoke of the need for people to take more time to listen to what the environment around us is saying. Indigenous knowledge is a

critical source of water science. We need to recognise its value, and the ways that we can both share and learn from in this space.”

It is this level of commitment by Rohan to the vision and mission of AWP, and the wider eWater Group, that enables our organisation to have an indelible impact on the lives of people and their communities within Australia and internationally.

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MEET CHANNPISEY NOP, MEKONG WATER SOLUTIONS

Channpisey Nop, Irrigation Engineer, Mekong Water Solutions

Water sustainability and scarcity is a real challenge for communities around Australia and internationally every single day. At eWater Group our role is to provide governments, decision makers, water managers, researchers and modellers the tools and expertise to make the right decisions when it comes to protecting our most precious resource: water.

Our people are multi-talented and made up of hydrologists, software developers, water industry experts, international development professionals, and innovators, with a strong commitment to supporting sustainable water management.

Our reach is far and wide within Australia and internationally.

eWater Group is responsible for the management of three divisions – eWater Solutions, the Australian Water Partnership, and Mekong Water Solutions.

Mekong Water Solutions, which is funded by the Australian Government, works closely with the World Bank, the Asian Development Bank, and the Royal Cambodian Government, with the skills and tools necessary to provide sustainable and accessible water to communities, farmers and industry across the region. We do this through innovative solutions, collaborative partnerships, and with local knowledge at the heart of everything.



Channpisey Nop, Irrigation Engineer, Mekong Water Solutions, is responsible for water balance analysis for irrigation system design, and water management system for

river basins in Cambodia and brings a special understanding of how important of river managements are to the people of Cambodia.

With an Engineering Degree in Water Resources and Rural Infrastructure supported by the Asian Development Bank from the Institute of Technology of Cambodia, and a master's degree in water resources engineering with a Japanese Government scholarship from Kyoto University, plus years of experience in water resources engineering and infrastructure in both Japan and Cambodia; Channpisey brings a wealth of knowledge to Mekong Water Solutions.

"I am grateful as a specialist on water resources engineering because I have a chance to share my knowledge and experiences for the development of water resources in Cambodia and in the Mekong region or even internationally through Mekong Water Solutions."

"I enjoy going to the field to study the real issues that provide a better understanding to solve those problems. The main inspiration for my role is when I can directly support the

farmers who could get benefit from our work.”

One key project Channpisey has been part of is the World Bank Cambodia Water Security Improvement Project which is focused on improving water security and increasing water productivity in river basins in Cambodia.



“This project is a real challenge for us [Mekong Water Solutions] to deliver quality work and solutions for our partners and safeguard water availability for Cambodia’s economic development – it is a very important project that

will ensure water security for the whole of Cambodia.”

Water scarcity is a major concern for the region which faces many challenges including the reliability and variation of water flow, erosion, and of course climate change.

“Mekong Water Solutions with technical support from Australian expertise in combination with local experiences could effectively solve water issues in the country and in the region. We have many tools developed in Australia that can help with in-country issues such as eWater Source.”

eWater Source is Australia’s own National Hydrological Modelling Platform, developed over thirty years and underpinned by world-class science and technical innovation to provide real-time information on water scarcity and resources. eWater Source is used by governments, decision-makers, water managers, modellers and researchers, in Australia and internationally.



Channpisey is a real champion of support more women and girls into the water sector in Cambodia and in the life of society.

“The woman performs the role of wife, partner, organizer, administrator, director, re-creator, disburser, economist, mother, disciplinarian, teacher, health officer, artist, and queen in the family at the same time. Apart from it, woman plays a key role in the socio-economic development of society.”

“Globally, women have become engines for economic growth. Achieving gender diversity in enterprises is of critical importance to improving business outcomes. Women are often under-represented in the academic and professional

fields of engineering, and not enough women have contributed as much as they should be able to the diverse fields of engineering historically and now.”

“For example, at Mekong Water Solutions, I am the only female engineer, so more work needs to be done to support more women and girls in engineering, but we are committed to doing that.”

“We need to encourage women and girls to feel supported to be innovative in the water space, need more value from people around them for their skills by providing more benefits for their hard work, encouraging them to believe in themselves.”

Who are we?

eWater Group is owned by the Australian Federal, State and Territory governments to further develop Australia’s world-class modelling tools and to provide support and training nationwide and internationally.

Our organisation is comprised of three divisions – eWater

Solutions, the Australian Water Partnership and the Mekong Water Solutions to deliver water management solutions for communities in Australia and overseas.

We also partner with the Australian Department of Foreign Affairs and Trade, and research groups and institutions to provide expertise and support for sustainable water management solutions in Australia and internationally, now and into the future.

MODSIM 2023: INTRODUCING NEW EWATER SOURCE CATCHMENT MODELLING FEATURES

Introducing new eWater Source catchment modelling features

S. Azadi ^a, Shiroma Maheepala ^b

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The following abstract was presented at MODSIM 2023, Darwin, 9-14 July.

Abstract: Water is vital for life. Clean freshwater is necessary for drinking and sanitation, providing for crops, livestock, and industry, and creating and sustaining the ecosystems on

which all life depends. However, freshwater is becoming scarce in many countries due to human population growth, disruption of natural water cycles in response to human activity, climate change, and poor water management. Australia, as the world's driest inhabited continent with many different climate zones, has had to deal with many climate-related challenges, from highly variable rainfall and cycles of devastating floods to prolonged drought.

In response, Australia has developed water governance frameworks appropriate to its climate and environment contexts utilizing leading science, innovative technology, and proven water management tools.

In this regard, eWater Source, Australia's agreed National Hydrological Modelling Platform (NHMP), supports integrated planning, operations, and governance from urban, catchment to river basin scales, including human and ecological influences (<https://ewater.org.au/>, Dutta et al., 2013). eWater Source accommodates diverse climatic, geographic, water policy and governance settings for both Australian and international climatic conditions (Ly et al., 2020).

Water management often involves monitoring and modelling water quality and quantity; accordingly, water management practices are constantly evolving and improving.

Therefore, eWater Source requires ongoing development to enable eWater Source to meet emerging or specific water management requirements.

Working with the Victorian Government, eWater has added new features to eWater Source to support water quality and catchment modelling, a critical component of good water resources management, including the ability to:

- merge two catchment scenarios to be run as a single scenario,
- specify a catchment map reporting region,
- record flows and constituents in bulk for a specified set of sub-catchments and/or for a specified set of functional units,
- export different model components (such as nodes, links, and sub-catchments) as a spatial layer,
- assess spatial outputs using a mapping tool.

These new features improve the capability of eWater Source catchment modelling at larger spatial scales, provide additional visual diagnostics of spatial outputs and allow a bulk analysis of the water quality and catchment records. Employing Source with these recent enhancements can facilitate the implementation of water management projects in different areas, from the simulation of the interaction between land use changes and water quality and hydrological dynamics to identifying the impacts of alternative development scenarios on water resources.

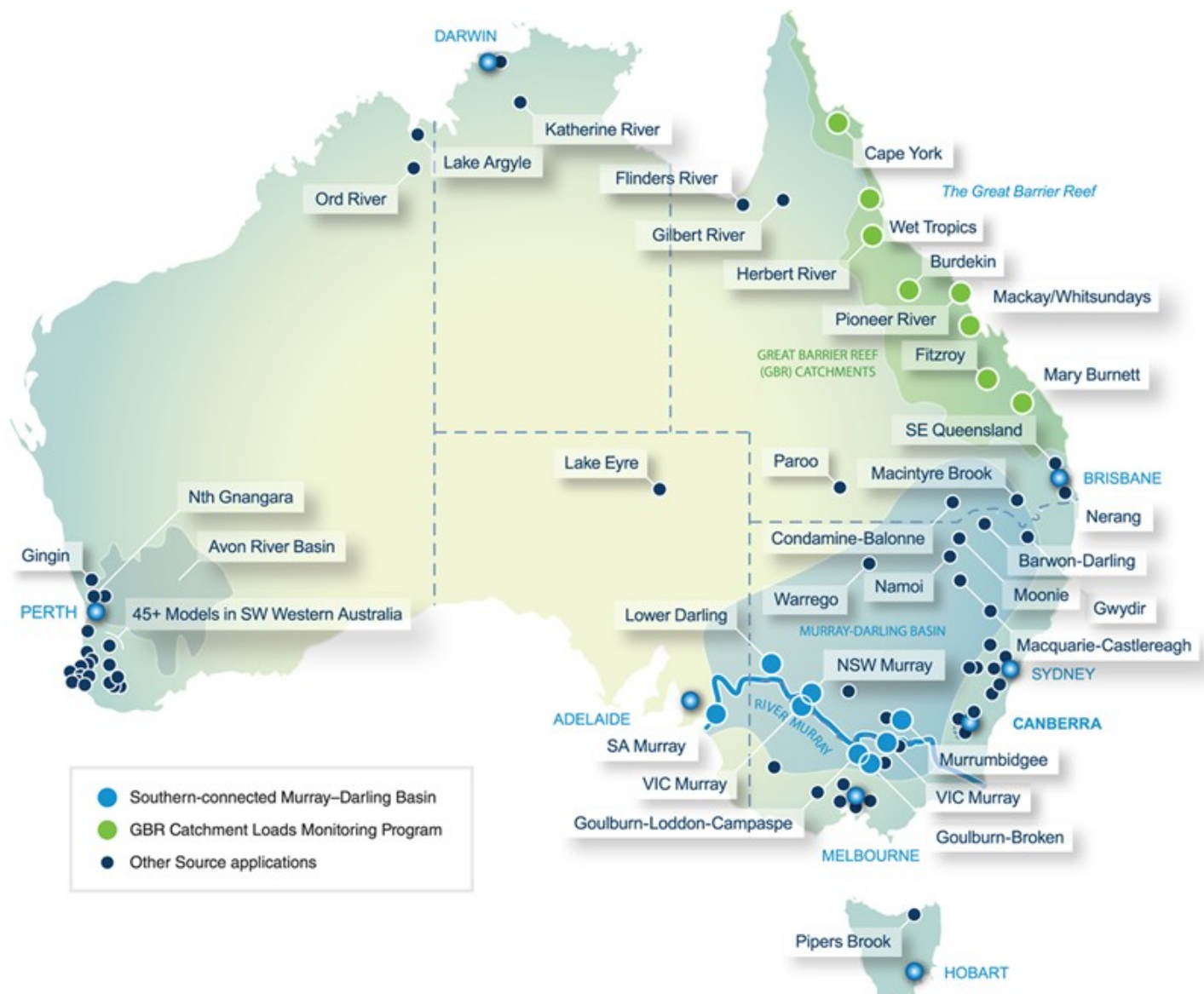
Email: samira.azadi@ewater.org.au

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Keywords: eWater Source, catchment modelling, water quality modelling, water management



MODSIM 2023: FUNCTIONALITIES IN E WATER SOURCE TO ADDRESS NEW CHALLENGES IN HYDROLOGICAL MODELLING.

Functionalities in eWater Source to address new challenges in hydrological modelling.

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The following abstract was presented at MODSIM 2023 in Darwin 9-14 July.

Abstract: Hydrological modelling is a vital component of the water management toolbox, to stay relevant, modelling tools must evolve to meet the changing needs of water managers, this is particularly evident in the changes needed to respond to the new challenges posed by climate change and its impacts. Australia has recognised this and responded through the development of eWater Source[®] and its adoption as the National Hydrological Modelling Platform (NHMP).

Developed to manage the highly varying water resources in Australia, Source is a crucial tool for climate change adaption. Source helps the water managers and modellers to understand and inform policies regarding environment, codify them, and make operational plans in an efficient way. Source is a constantly evolving tool, with more capabilities and functionalities added to its toolkit based on changing requirements and feedback from the user community. In this regard, eWater Group is playing a significant role in supporting the environmentally sustainable management of water resources in Australia and around the world.

This paper features two recent enhancements to Source that

will support water managers to meet current and emerging challenges of a changing climate.

The uncertainties of climate change require modellers to consider a wide range of scenarios. Working with the Victorian Government, eWater has added new 'multi-replicate' or 'Replicate Analysis' functionality to Source. Based on functionality in REALM (Victoria University and Department of Environment and Primary Industries, 2013), the 'Replicate Analysis' functionality allows the users to run multiple instances of any Source model with any degree of complexity using the concept of input data recycling to allow modellers to extract each replicate result. This is a useful functionality particularly in understanding the risk of spill in reservoirs under varying climatic conditions. For example, users can test 'what if' scenarios such as the reservoir storage and spill conditions if a past rainfall pattern is repeated in a particular year.

The 'Replicate Analysis' option is now integrated into Source as one of the run configuration options. Users can define the number of replicates required and the increment of replication and select all or specific data sources to be

cycled. For example, if a particular rainfall data is selected and cycled, the resulting multiple downstream flows could be used to analyse the effect of changes in rainfall patterns on the flows.

Farm dams play an important role in helping landowners to manage climate variability. But they can also impact catchment and river hydrology. Source modellers have been able to examine these impacts for several years using the Onstream Farm Dam plugin, this functionality has recently been incorporated into core Source, making it more readily accessible to all Source users. The new Farm Dams node models the reliability of water diversion from farm dams to agricultural land based on environmental engineering principles (Government of Western Australia, 2012). The node uses inputs and parameters such as dam capacity, demand, rainfall, evaporation, seepage etc. to conduct water balance at every time step.

The adoption of abovementioned functionalities and features help eWater Source to continuously evolve and adapt to new challenges in the realm of water resources management.

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Government of Western Australia, 2012. Installation and user guide for Farm Dam plugins to eWater Source.

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Keywords: eWater Source, NHMP, Replicate Analysis, Onstream Farm Dam, Climate Change



EWATER GROUP CELEBRATES 10 YEARS.

eWater Group
celebrates 10 years of
water expertise in
Australia and
internationally



This year marks ten years of eWater Group, and we recently took the opportunity to acknowledge and celebrate our achievements so far and the challenges that we have faced as an organisation over the past decade.

Representatives from across Federal, State, and Territory governments, the private sector, research, and international institutions, recently came together at a special event in

Canberra to celebrate eWater Group and its divisions, and our work in Australia, the Mekong, and the Indo-Pacific region.

Since our inception, we have led the way in delivering water management, water security, and sustainability solutions through our expertise, knowledge, program delivery, and water modelling tools and services.

Michael Wilson, Group CEO, said the event was a great opportunity for employees, our owners, and partners to acknowledge the collective efforts by all to deliver water management expertise and tools to meet both the Australian and international needs and the increasing pressure of climate change on our environment.

"I thank our owners and partners for the support and collaboration that have shown eWater Group over the past ten years and now into the future. With this support, our organisation will continue to grow and reinforces Australia as a leader in water management, water security, and sustainability, here and internationally."

While we acknowledge our achievements over the past decade, we are now looking ahead to the future as eWater Group, and its divisions continue to deliver new programs as well as strengthen and create new partnerships in Australia and internationally.



SHARING AUSTRALIAN WATER EXPERTISE, GLOBALLY

Our Hydrology team recently joined experts in the Mekong region for a regional training modelling tools program.

Sharing best practices, capabilities, and knowledge of Australian water expertise globally is our mission at eWater Group.

Our people – across eWater Solutions, the Australian Water Partnership, and Mekong Water Solutions – work incredibly hard in the pursuit of sustainable management of water resources.

Members of our Hydrology team – Juanita Moolman, Paradis

Someth, Samira Azadi, and Sudeep Nair – recently joined experts from six Mekong countries to run a regional training modelling tools program as part of a joint study.

The Lancang-Mekong Cooperation (LMC) and the Mekong River Commission (MRC) are conducting a joint study on the changing hydrological conditions of the Lower Mekong River Basin. The study aims to develop adaption strategies that address the flooding and drought risks caused by climate change across the river basin.



Paradis Someth, Principal Hydrologist, eWater Group, said
“As part of the study, our eWater Group Hydrology Team

joined by water modelling experts from across the Mekong region to provide hands-on training and expertise on using, eWater Source to gain a better understanding of this tool and how it can help in impact assessment.”

“eWater Group has a long and proud history of supporting water resource management in the Mekong region. eWater Group’s three divisions – eWater Solutions, Australian Water Partnership, and Mekong Water Solutions – play a critical role in shaping Australia’s technology and helping to build capabilities in the region.”

Australia has been a partner of the Mekong River Commission (MRC) since its inception in 1995. The MRC is an intergovernmental organisation, established “to help the lower Mekong countries build consensus around solutions that ensure a sustainable future for the Mekong and its people through river basin monitoring, assessment, data and information sharing, and dialogue and cooperation.”

Since 2013, eWater Group has supported the MRC and its four member countries (Cambodia, Laos, Thailand, and Vietnam) to enhance the management of the Mekong River’s

water for the benefit of all who depend on it.

To learn more about our partnership with the Mekong River Commission read the full story >

[*https://ewater.org.au/ewater-group-and-its-partnership-with-mekong-river-commission/*](https://ewater.org.au/ewater-group-and-its-partnership-with-mekong-river-commission/)

For more information eWater Source >

[*https://ewater.org.au/products/ewater-source/*](https://ewater.org.au/products/ewater-source/)

Reach out to our team for more >

[*https://ewater.org.au/contact-us/*](https://ewater.org.au/contact-us/)



MEET SAMIRA AZADI, HYDROLOGIST

Understanding the movement of water in rivers, lakes, dams, and seas, together with the effects of climate change on an increasingly changing environment requires a wealth of knowledge... and a Master's or other higher degree can help.



Meet Samira Azadi, one of our hydrologists with a Masters in Water Engineering from Iran's Shiraz University and a Master of Philosophy (MPhil) in Civil Engineering – Water and Environmental – from the University of Newcastle. As an experienced Water and Environmental Engineer, Samira plays a key role in supporting our National Hydrological Modelling Platform, eWater Source.

After completing her MPhil, Samira decided to make Australia her home and moved to Canberra to join eWater Group in 2021 and has been making her mark ever since.

“I wanted to live in Australia because I found Australians are very friendly and welcoming. It feels like a big diverse community. I love that we love our jobs, but it is part of what we do, not everything we do. There is so much more to explore.”

For Samira, working as an eWater Group Hydrologist, enables her to continue her passion for hydrology and eco-hydrologic modelling, and offering support and advice to our partners across each state and territory to deliver innovative solutions to support sustainable water for cities and communities across Australia and the world.

“I love my job. I am passionate about what I do. And if I want to describe eWater in only one word I would say eWater is a dynamic organisation.”

“I am able to learn new things every day, and share my knowledge and experience with my colleagues, including

fellow hydrologists and developers, but also support our partners to deliver water solutions for their communities.”

“My fellow hydrologists empower me and create opportunities for me to learn so I can be the best at my role. I love that my team is so supportive.”

For Samira, working as an eWater Group Hydrologist, enables her to continue her passion for hydrology and eco-hydrologic modelling, and offering support and advice to our partners across each state and territory to deliver innovative solutions to support sustainable water for cities and communities across Australia and the world.

“I think eWater Source is an incredible tool. Being the national hydrological platform means that everyone is getting consistent data and information to make informed decisions about hydrology, catchments, and river systems.”

“From the moment that the first raindrop comes from the sky to where it lands and how it seeps through the soil, we can show our partners this critical information through dynamic data. This helps them make the right decisions regarding

how our water resources are used and where.”

Source helps water experts with all climates and environments and is adaptable and readily updated to include new policy, data, knowledge, and management approaches. It offers the flexibility and ability to link to new and existing models and other information systems; and has been built in partnership with governments, industry, and research organisations.

For Samira the critical issue facing water sustainability and hydrology is data, and ensuring we continue to have the right data with real-time information for our partners and clients. By continuing to invest in Source, we can deliver the best information available to make the right decisions to enhance our ability to manage water sustainability, scarcity, and resilience.

Who are we?

eWater Group is owned by the Australian Federal, State and Territory governments to further develop Australia’s world-class modelling tools and to provide support and training

nationwide and internationally.

Our organisation is comprised of three divisions – eWater Solutions, the Australian Water Partnership and the Mekong Water Solutions to deliver water management solutions for communities in Australia and overseas.

We also partner with the Australian Department of Foreign Affairs and Trade, and research groups and institutions to provide expertise and support for sustainable water management solutions in Australia and internationally, now and into the future.

CLIMATE CHANGE IS INCREASING WATER SCARCITY

Climate change is increasing water scarcity

by Damien Pearson, General Manager, eWater Solutions

Climate change is one of the defining challenges of this century.

Water is the primary expression of the effects climate change has on humanity and the environment manifesting itself through droughts, floods, water stress, and declining water quality. In many countries reliable supplies of

freshwater are becoming scarce, undermining economic growth, increasing poverty, placing vulnerable people at risk and further disadvantage, and damaging the environment on which all life depends. The “livelihood crises” caused by the climate crisis have been identified by the World Economic Forum as “one of the most potentially severe risks over the next decade.” [i]

Effective management of water resources in the face of changing climate is essential to achieving all 17 of the United Nations Sustainable Development Goals agreed by all nations in 2015.



How Australia can make a difference

As the driest inhabited continent on earth, Australia has become an internationally recognized leader in water policy and management.

Our sought-after expertise includes advice on transparent water allocation systems, efficient irrigation practices, and technologies, drought mitigation measures, allocation of environmental water flows, as well as reforms in urban water and sanitation.

Importantly in the context of climate change, Australia's reforms include an explicit focus on economic efficiency and environmental sustainability.^[i] However, Australia is a continent with many different climate zones and many different water use profiles.^[ii]

Consequently, Australian states and territories have had to develop water governance frameworks appropriate to their

climate and environmental contexts while maintaining content and coherence with national plans and agreements. One size does not fit all.



eWater Source, Australia's agreed National Hydrological Modelling Platform (NHMP), supports integrated planning, operations, and governance from urban to catchment to river

basin scales including taking human and ecological influences into account. Source accommodates diverse climatic, geographic, water policy and governance settings for both Australian and international climatic conditions.

Our platform integrates water resource assessment and policy, to produce water accounts and manage rivers, and share water according to allocations and agreements.

eWater Source has become an important tool for understanding water supply and demand, managing allocations between users, and delivering water when and where it is needed.

Designed to be adaptive and readily customized to meet local or specific needs, eWater Source is underpinned by world-class science and technical innovation, and assists in the following broad areas:

- Assessing climate change impacts on water availability and demand over time
- Establishing effective water policies, regulatory systems,

and institutions to enable infrastructure investments (governance policies and systems)

- Collecting and managing water data and developing water information systems
- Enabling water allocations and management of river basins and urban water supply

eWater Source has been applied and validated extensively in a wide range of real-world water use situations, both in Australia and internationally, supporting the management of rivers in Australia, the Mekong region, across South Asia, Africa, and the Middle East.

Growing urban demand

Our world is rapidly becoming more urbanized. In 2018, 55 percent of the world's population was living in urban areas, a proportion that is expected to increase to 68 percent by 2050. Projections show that urbanisation, combined with the

overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90 per cent of this increase taking place in Asia and Africa, according to United Nations data set[1].

With a growing focus on meeting a more spatially concentrated water demand, planners require tools to understand their water supply and drainage options and constraints, along with means to assess alternative scenarios to manage these. Water-sensitive urban design (WSUD) seeks to blend traditional rainfall-dependent and alternative water supplies (such as recycled water, and rainwater tanks) to enhance water security.

To understand this blend of supplies and potential trade-offs, eWater MUSIC and Urban Developer models are designed to manage the interaction between various water supply systems as well as capture all water cycle components including rainfall and stormwater runoff, potable water, and the recycling / reuse of wastewater. These tools enable robust and reliable decision-making for secure urban water supplies.

Climate Change is exacerbating the water scarcity crisis through changing weather patterns and increasing frequency and intensity of extreme weather events. The water challenge has become “too much, too little, or too polluted”.

Climate change adaptation primarily demands climate-resilient water management and eWater is ready to share its experience and tools to assist countries facing persistent poverty and disadvantage resulting from the impacts of climate-driven water scarcity.



eWater Group is jointly established and owned by the

Australian Federal and all State and Territory governments to maintain and further develop Australia's internationally respected water modelling tools, and to provide support, program delivery, and training domestically and internationally.

[1] 68% of the world population projected to live in urban areas by 2050, says UN | UN DESA | United Nations Department of Economic and Social Affairs,

[i] Aither 2022 *Governance as Infrastructure for Water Security*.

<https://aither.com.au/governance-as-infrastructure-2/>

[ii] Productivity Commission, National Water Reform 2020, Inquiry Report. p68

MEET SUDEEP NAIR, HYDROLOGIST

We are continuing the *Meet Our People* series where we put the spotlight on the people that make up eWater Group. We are an organisation focused on delivering smart, sustainable water management solutions in Australia and internationally.



Sudeep Nair is one of our hydrological experts who has been working within our organisation and supporting our partners and clients nationally, and internationally, for nearly two years now, in addition to his 10 years of experience in the field of water resources management and modelling.

Sudeep's interest in water resources began when he started his postgraduate studies at IIT Kharagpur leading him to pursue his doctoral studies in Environmental Hydrology and Water Resources, and eventually academia. But the urge to work on real-world water resource problems and water modelling was too great, and Sudeep made the leap from research to eWater Group.

As one of our hydrologists, Sudeep works on Australia's National Hydrological Modelling Platform, eWater Source, and MUSIC, and supports this country's most prominent government and non-government organisations to find solutions to support sustainable water management.

"I get the opportunity to involve in both the development of the tools and their application to solve real-world water

management problems. Moreover, I am part of the team which supports the adoption and use of our software products through various training programs.”

Acting as a bridge between our customers, who include hydrologists and water modellers, and the software developer team, Sudeep identifies, tests, and reviews their models to ensure there are working at optimum levels to deliver high-quality water data and information in real time.

“I don’t have a typical day *[at eWater Group]* which is why I like working at our organisation. The hydrology team is a small and cohesive team, and we get the opportunity to get involved in almost all activities such as the development of new functionalities in Source and MUSIC, software maintenance and support, modelling, supporting clients and partners, and training.”

While our hydrology team may be small, it has a huge impact. “As a key member in a small team, my suggestions and feedback are heard and valued. It feels like a family here in eWater. I am also given the opportunity to undertake various training to regularly update my skills and

knowledge.”

Like any industry, we face many challenges in water management and delivering high-quality data and information to a growing audience in Australia and internationally. For eWater Group our focus is offering Australian governments, water experts and institutions here and abroad the highest of expertise, knowledge, and support.

For Sudeep, the challenge we face is the need for clarity amongst modellers regarding the selection of appropriate water modelling tool to address changing and emerging needs of water managers.

“eWater Source [*the National Hydrological Modelling Platform*] is different and is increasingly being adopted in Australia which enables uniformity and comparison, along with [*our other modelling platform*] MUSIC, which is already used widely in Australia for urban water modelling purposes.

eWater Source, and MUSIC, are constantly evolving tools, with more capabilities and functionalities added to our toolkit

based on customer feedback and requests. It is this continued drive to deliver better support and services which “make eWater tools ready for assessing new water-related challenges in the wake of climate change and other pressures.”

Who are we?

eWater Group is owned by the Australian Federal, State and Territory governments to further develop Australia’s world-class modelling tools and to provide support and training nationwide and internationally.

Our organisation is comprised of three divisions – eWater Solutions, the Australian Water Partnership and the Mekong Water Solutions to deliver water management solutions for communities in Australia and overseas.

We also partner with the Australian Department of Foreign Affairs and Trade, and research groups and institutions to provide expertise and support for sustainable water management solutions in Australia and internationally, now and into the future.

MEET SOPHEARA PROM, MEKONG WATER SOLUTIONS

“Helping people have a better livelihood is at the heart of everything I do and want to do at Mekong Water Solutions.”

eWater Group is a unique organisation in the water sector. We are made up of hydrologists, software developers, water industry experts, innovators, program managers and everything in between. Our people are central to our mission to protect our most precious resource: water.

We are diverse, experienced and – most importantly – we all share a passion and commitment to supporting sustainable water management.

eWater Group manages three divisions – eWater Solutions, the Australian Water Partnership, and Mekong Water Solutions – with each division focused on a shared commitment to deliver water solutions and expertise to communities in Australia and internationally.

Mekong Water Solutions (MWS) primary focus is to provide sustainable and accessible water for people across the Mekong region through innovative solutions, collaborative partnerships, and with local knowledge at the heart of all we do. MWS delivers water projects in Cambodia that are funded by the Australian Government, the World Bank, the Asian Development Bank, and the Royal Cambodian Government.



Sopheara Prom is Mekong Water Solutions' Finance and

Procurement Manager and is responsible for the operation of finance systems and procedures for MWS and its people.

Sopheara has a critical role in MWS to ensure we maintain and protect our strong financial system so our specialised local staff can deliver quality water expertise in Cambodia.

“I joined MWS to be part of the solutions to help people in the region. I am excited to share and utilise my knowledge and skills that contribute to Mekong Water Solutions and its future growth.”

“My main inspiration as a finance and procurement manager is to provide clear communications on finance management and internal control systems to all staff and stakeholders.”

“I am excited to learn new things with MWS to improve and develop myself to be a more critical and effective leader for the organisation.”

With more than 10 years' experience in the finance and administration sector, Sopheara is playing a key role in the success of MWS but her love for development is strong and

helping others is something she wants to expand on into the future.

“I want to share my efforts and heart in helping people to have better livelihoods in very remote or urban areas in Cambodia and extend that to other places in Asia and the world.”

Sopheara’s passion for improving the lives of people and their communities in Cambodia is shared by everyone across the organisation as the region continues to face many environmental challenges, including water sustainability, and scarcity.

One of the main challenges for those living along the Mekong River is their vulnerability to floods during the wet seasons and lack of water during the dry season. For Sopheara the right approach is all about being strategic.

“Irrigation systems and water management are very important to retain water in dry seasons and prevent serious flooding in the rainy season. I think MWS has the right strategy and method to provide thoughtful solutions to water

management problems around the area that allow households along the Mekong and nearby provinces to access safe water and to sustain water usage year-round.”

MEET OUR PEOPLE – DAXA BHUDIA, SOFTWARE DEVELOPER

We are diverse, and experienced, and most importantly we have a strong heritage of supporting sustainable water management.



We are incredibly lucky to have an organisation with people like Daxa Bhudia, our Software Developer, who brings a wealth of knowledge and experience to eWater Group.

Daxa has worked in the IT industry in both Australia and internationally for over eight years, and at eWater she is responsible for working on Australia's National Hydrological Modelling Platform, eWater Source.

Daxa's love for software development and IT began early in the halls of her high school in Bhuj, India, and led her to

complete her bachelor's degree in IT. From there, Daxa worked across various domains including accounting, ERP systems, supply chain management, healthcare, logistics, petroleum, and manufacturing, before she entered the world of hydrology and science and joined eWater in 2022.

“I was amazed with the products developed at eWater that how it helps so much across the world for managing water resources and water quality.”

“The region from where I come is very dry with low rainfall near to a salt desert in Kutch, [a district of Gujarat state in western India]. I have seen water crises in my childhood and heard stories from my parents about having to walk for so long in the morning just to get drinkable water. Even this is still the case in some of the regions in India.”

eWater Group is owned by Australian Federal, State and Territory governments to maintain and further develop Australia's world-class modelling tools, and to provide support and training nationwide and internationally. The Group manages three divisions – eWater Solutions, Australian Water Partnership and Mekong Water Solutions –

to deliver water management solutions for communities in Australia and overseas.

Daxa is a critical member of our eWater Solutions team which deliver eWater Source (Australia's National Hydrological Modelling Platform), together with other water management tools and support, for our Australian government partners, water managers in the public, private and research sectors, and various other clients.

Daxa's role includes working closely with our developers and hydrology teams to provide software development and hydrological modelling services that advance Australia's world-class water resource modelling tools, and our expertise, for our partners in Australia and around the world.

Daxa enjoys the problem-solving aspect of her role at eWater and finding innovative solutions to persistent and new challenges.

"I enjoy working on complex software, learning about hydrology, and incorporating it into the software. I always look forward to coming to work as it challenges my ability

and enables me to give 100 percent and do my best.”

EWATER GROUP AND ITS PARTNERSHIP WITH MEKONG RIVER COMMISSION

Australia has a long and proud history of supporting water resource management in the Mekong region.

eWater Group's three divisions – eWater Solutions, Australian Water Partnership, and Mekong Water Solutions – play a critical role in sharing Australia's technology and helping to build capabilities in the region.

Australia has been a partner of the Mekong River Commission (MRC) since its inception in 1995. The MRC is an intergovernmental organisation, established “to help the lower Mekong countries build consensus around solutions that ensure a sustainable future for the Mekong and its people through basin monitoring, assessment, data and

information sharing, and dialogue and cooperation.”

Since 2013, eWater Group has supported the Vientiane-based MRC and its four member countries (Cambodia, Laos, Thailand, and Vietnam) to enhance the management of the Mekong River’s water for the benefit of all who depend on it.

So how do we support the MRC?

Through the Australian Water Partnership, Australia has mobilised assistance on a range of strategically important issues including sustainable hydropower, regional flood and drought management, and management of fisheries in the rapidly developing river. Several Australian organisations are involved in delivering technical and capacity development support as part of Australia’s long-standing partnership.

Through eWater Solutions, we have helped the MRC to increase their understanding of inflows into the river and the impacts of dams in the river basin on flow levels and

sediment transportation through our flagship software product, eWater Source. This world-class science and technology platform is playing a key role in delivering several elements of the MRC 2021-2025 Strategic Plan, including the report on low flow and drought conditions in 2019-2021, the Joint Study between MRC and Lancang-Mekong Cooperation Water Centre on Changing Pattern of Hydrological Conditions in the Lancang-Mekong River Basin and enhancements to the MRC's Flood/Drought webpage to better integrate data and communicate vital information on river flows.

For our Solutions team, recent activities have included:

- advice on quality control procedures for incorporating hydromet (water and meteorology) data into MRC systems, to better inform day-to-day operations and provide faster response times;
- advice on the implementation of the MRC Procedures for data, water use and flow monitoring;
- supporting the initiative of the MRC Document Management System to ensure experience and knowledge from the past informs future planning;

- contributing to the report on low flow and drought conditions in 2019-2021, which was well received by international stakeholders;
- upgrading the Mekong Source model to incorporate new information, such as the storage strategies of reservoirs, in preparation for the Joint Study between MRC and Lancang-Mekong Cooperation Water Centre on Changing Pattern of Hydrological Conditions in the Lancang-Mekong River Basin;
- coordinating and consolidating technical inputs from both the MRC and Lancang-Mekong Cooperation Water Centre team members into the report of the Joint study;
- enhancing the MRC's Flood/Drought webpage to better integrate data and communicate vital information on river flows.

According to eWater Group's Principal Hydrologist and Mekong Team Leader, Dr Paradis Someth, "the success of eWater's involvement with the MRC has been due to visionary leadership and trust of both parties and our work being clearly and directly aligned with the MRC Strategic

Plan, which has ensured support from across the MRC Secretariat and relevant stakeholders.”

“Our collaborative partnership, with its strong focus on advice and coaching for staff in MRCS and member countries, has helped to develop the necessary skills and expertise to improve management of the Mekong River,” Dr Someth said.

For Australian Water Partnership General Manager, Sarah Ransom, “the long-term partnership with the Mekong River Commission represents shared trust with one another, and a shared interest in sustainable management and development of water resources in the Mekong basin. We look forward to continuing our support in the region.”

Over this period, eWater has enjoyed close working relations with the MRC Secretariat Leadership team and DFAT’s Mekong regional water team.