

2025

Annual Report



The **Goyder Institute for Water Research** is a collaborative partnership of the South Australian Government through the Department for Environment and Water, CSIRO, Flinders University, the University of Adelaide and the University of South Australia.

The Institute facilitates collaboration of governments, industries, research organisations, community and First Nations to identify, develop and adopt sustainable, innovative and integrated solutions for complex water management challenges.





A message from our Chair

The Goyder Water Research Institute has continued to deliver for its partners, for South Australia and for the Australian Government in 2025.

As outlined in this report, an enormous program of work has been delivered bringing the best researchers from our partners to some of the most challenging water resource issues in South Australia and beyond. Collaboration is the key to our value, and I am so pleased to see this occurring at a gold standard not just between the researchers from our Partners but also with community and First Nations people in particular through our Coorong Lower Lakes and Murray Mouth (CLLMM) Research Centre.

The ground-up style model adopted for the research program of the Centre is exemplary and has led to a record number of critical projects being undertaken and a very high level of community involvement in them. First Nations involvement in both design and execution of projects has been key, allowing for both traditional and western science to be brought to problem solving.

My thanks go to everyone in the community who have dedicated their time and effort. We know this is because you are committed to a sustainable future for your part of the world and it is rewarding to see community knowledge brought alongside research effort to help this happen works together to achieve that.

The 3-year term of the CLLMM Research Centre has been made possible by funding from the Australian Government and I'd like to thank those officials who have been enablers and stewards of the model as well as the members of parliament (both Federal and State) who have supported funding of the Centre. We hope to see further investment to extend the research program to inform water management decisions that will inevitably need to be made in the CLLMM.



This year has been an important one for thinking about the future of the Institute. With the current term ending in June 2026, partners have been heavily engaged in casting a fourth term for Goyder. Negotiations have been very positive, and we expect parties to enter into a partnership agreement in early 2026. With the merger of the University of Adelaide and the University of South Australia, the new Adelaide University will become a new official partner alongside CSIRO, Flinders University and the South Australian Government who have all recommitted to the Institute. We have also reached out to ensure that other relevant agencies can be involved in the Institute and expect announcements around that in the coming months.

I'd like to take this opportunity to commend the work of the Institute's Director and our staff who bring such energy and expertise to our work. Your guidance of projects and connections to the

South Australia community are critical to our success. Similarly, the excellent work and dedication of researchers, and commitment of Board members from our diverse partnership gives us strength and the capacity to bring the best minds to solving water issues that benefit South Australia and Australia as a whole. And that's what we are all about.

Here's to a fantastic 2026 and fourth term for the Goyder Water Research Institute.



Jody Swirepik
Independent Chair
Goyder Institute for
Water Research



A message from our Director

It has been another productive and significant year for the Goyder Institute for Water Research. We have continued to deliver a diverse and impactful research portfolio, addressing complex issues across water security, climate resilience, environmental sustainability, and community outcomes.

Our researchers and partners have demonstrated a strong commitment to collaboration, innovation, and practical application, ensuring that our work continues to inform decision-making and deliver real-world benefits.

Importantly, we have also explored new opportunities to strengthen existing partnerships and develop new projects that respond to emerging priorities.

Since launching in January 2024, our flagship program, the CLLMM Research Centre, has engaged with over 4,000 people through more than 100 events, including the 2025 Summer Series of Science, cultural and community events, school programs, and international delegations. The Centre has strengthened its presence in Goolwa, South Australia, working in close partnership with the community, First Nations, management agencies, and research and industry partners to deliver the largest science program ever undertaken at the end of the Murray-Darling Basin. Its second-year progress report showcases the breadth of the Centre's work and its connectivity across the CLLMM region, highlighting research, collaborative initiatives and community engagement, and the report available on the CLLMM website.

During 2025, we saw the completion of another significant project, *Adaptation of the South-Eastern Drainage System under a Changing Climate*. Delivered over the past two years, this project provides robust, evidence-based insights that will continue to guide water allocation planning and management across the Limestone Coast region for years to come, reinforcing the Institute's role in supporting resilient, long-term water solutions for South Australia.

In November, we welcomed 15 Fellows from 9 organisations from Vietnam as part of the Institute's inaugural Australian Awards Fellowship Program. This Australian Government-funded project (through the Department of Foreign Affairs and Trade, DFAT) is a collaboration between the Goyder Institute and the Institute for Water Resources Economics and Management under the Vietnam Academy of Water Resources. The program fosters training and capacity building in climate-smart irrigation and water resources management.

During their visit to South Australia, the Fellows connected with 25 South Australian organisations, creating opportunities for shared learning and knowledge exchange. In the first half of 2026, a small number of our Australian experts will travel to Vietnam to explore how the Fellowship is informing management and decision making across organisations and geographic scale, including visits to case study locations to support further knowledge exchange and understanding of the challenges facing Vietnam's water resources.

Another project completed in 2025 examined changes in high-intensity rainfall events in South Australia. The results of this pilot study indicated 'likely' increases in extreme, short-duration rainfall events, highlighting trends that could have significant implications for stormwater infrastructure design and urban water management in Greater Adelaide.

For much of 2025, a Harmful Algal Bloom significantly impacted on South Australia's marine, coastal and estuarine environments, communities and industries. Through the Institute's partnerships and wider networks, we engaged over 50 scientists to submit research



priorities to the South Australian Government to help inform impact assessment, recovery and future mitigation planning. I presented a joint Goyder Institute and CLLMM Research Centre submission to the Federal Senate Enquiry into Algal Blooms in South Australia, as well as to the South Australian Joint Committee on Harmful Algal Blooms. The CLLMM Research Centre has received frequent reports from the local community about the health and lifestyle impacts of the algal bloom. Throughout this period, the Institute has advocated for a collaborative, partnership driven approach to managing current and future bloom events, ensuring decisions are guided by robust scientific evidence.

At the end of 2025, we secured a new project to begin in early 2026: *Identifying and managing environmental impacts of the carp virus on Matters of Environmental Significance*. Funded by the Australian Government through the Department of Agriculture Fisheries and Forestry (DAFF), the project will address critical knowledge gaps around the potential environmental impacts of the carp virus and inform evidence-based management strategies. Bringing together scientists from CSIRO, Adelaide University, Charles Sturt University and industry partners, the project will generate new insights into how the carp virus could affect Australia's threatened species and ecological communities, reinforcing the Institute's role as a trusted provider of applied research to support sustainable environmental management.

Across 2025, the Institute team experienced several changes. In May we farewelled Kyla McHughes as First Nations Engagement Officer at the CLLMM Research Centre, and welcomed Sue Ellison into the role,

with Sue continuing her work as Engagement Coordinator. We also welcomed Tiffany Nay back from maternity leave in August to resume coordinating communications for the Centre, strengthening the team's capacity to support engagement and outreach activities.

A key focus over the past year has been working with our Institute Partners to continue the Institute beyond the end of its current term of 30 June 2026. This has included supporting the transition of the University of Adelaide and the University of South Australia into the newly formed Adelaide University, and we look forward to working closely with all members of the new institution. All of our Partners have agreed in principle to continue the Institute into a fourth term from 1 July 2026.

I would like to sincerely thank our research partners, stakeholders, funders, and the broader community for their continued support and engagement. Your collaboration is central to the Institute's success. I also extend my gratitude to the Goyder Institute team for their dedication, professionalism, and commitment throughout the year.

We enter 2026 with optimism and excitement as we approach the Institutes fourth term with our Partners and collaborators. The importance of water in underpinning our social, environmental, economic and cultural values will continue to grow as the impacts of climate change become more pronounced. Generating the knowledge to inform evidence-based decision making remains vital to supporting resilience and adaptation across the water sector, and I look forward to the Goyder Institute continuing to lead this work throughout its exciting new term.



Dr Alec Rolston
Director
Goyder Institute
for Water Research



Our goals and impact areas

Our work continues to focus on our four key impact areas:



Water for people

Progress integrated water management solutions to provide safe, reliable and affordable water for urban, regional and remote communities and deliver cultural and social benefits.



Water for the environment

Restore and protect water dependent ecosystems and ecological assets to maintain biodiversity and support health and wellbeing of communities.



Water for industry

Provide sustainable water solutions to industries such as agriculture, mining, energy and green hydrogen and support sustainable economic growth for communities.



Climate adaptation

Guide action on climate adaptation and resilience for water for people, environment and industry.

Our goals through to June 2026 are for the Institute to:

- Establish a large, diverse and impactful research portfolio
- Successfully deliver established research projects
- Continue to build capacity and capability in Institute partners and end-users
- Continue to build the collaborative model through the establishment of new project partners
- Seek to be recognised nationally as a trusted source for undertaking independent and impactful research
- Establish a viable long-term operating model that will lead to a fourth term of the Institute
- Focus on research projects that make an impact on the most challenging and pressing issues, including the UN Sustainable Development Goals, National Water Initiative, the Basin Plan, Closing the Gap, Climate Change Actions and Integrated Urban Water Management



The impact and value of our work

The Institute's third term began in 2020 and since this time, we have secured 25 projects totalling over \$23 million.

In doing this, we have showcased the world-leading expertise of our Partner organisations and researchers, engaging at local, national and international scales. The results of our work have been communicated across diverse audiences, publications and media platforms, maximising the impact of what we do and increasing awareness and value of the Institute and our Partner organisations.

Over the past year we have:

- Secured the Institute's fourth term beyond July 2026.
- Built and strengthened relationships with the Federal Australian Government, securing funding for projects through the Department of Foreign Affairs and Trade (DFAT), the Department of Agriculture, Fisheries and Forestry (DAFF) and continuing the CLLMM Research Centre funded through the Department of Climate Change, Energy, the Environment and Water (DCCEEW).

- Showcased the world-leading capabilities of South Australian and CSIRO researchers at national and international scales, highlighting the impact and relevance of our work
- Engaged and educated communities, First Nations, government agencies and researchers on critical water-related issues, fostering understanding and capacity for evidence-based decision making.
- Worked with local, state and federal elected representatives to raise awareness and build support for the Institute's work and its contribution to informed water policy.
- Embedded research end-users in project design and delivery, ensuring government agencies (state and federal), communities, First Nations and researchers can act on findings throughout project lifecycles.
- Communicated the Institute's collaborative approach and research outputs to local, state, national and international audiences via webinars, conferences and forums and multiple media platforms.



Research Showcase: Coorong, Lower Lakes and Murray Mouth (CLLMM) Research Centre

The CLLMM Research Centre entered its second year of operation in 2025, marking a shift from its establishment phase into full program delivery. This has involved turning planning into action, deepening our partnerships across multiple organisations and scales, and realising the impact of the Centre's work across science, community and First Nations culture.

The Centre is now coordinating the largest science research program ever delivered at the end of the Murray-Darling Basin, with 31 projects, over 150 scientists and the involvement of more than 30 local, national and international organisations. All projects are centred around the broad theme of climate change, with their design and delivery underpinned by community, First Nations, management agencies and scientists' involvement, knowledge and perspectives. Over 1,000 people and over 50 organisations were engaged to develop the science program, and since opening our doors in January 2024, over 4,000 people have engaged in the Centre's activities.

Over the past year, the Centre's First Nations engagement has embedded Indigenous-led conservation and the creation and weaving of cultural knowledge throughout all that the Centre does.

Our activities have focussed on amplifying First Nations knowledge, voices and culture, and building capacity and connectivity throughout the CLLMM region. This is underpinned by the understanding that traditional knowledge, language and connection to Country are central to the long-term health of the CLLMM landscape.

Our science projects have been actively undertaking fieldwork and laboratory research activities, building First Nations and community partnerships and strengthening connectivity across local, national and international scales. This has aligned with our broader communications activities which have focussed on showcasing our scientific and cultural connectivity and knowledge, and as the year has progressed, increasingly on emerging science program results and outputs.

The Centre's pilot education program began in 2025, connecting enthusiastic students with scientists in alignment with their curriculum requirements. In tandem, the Centre has increased its broader school engagements, facilitating connectivity with the local environment and inspiring our future scientists.

The first half of 2026 will be an important time for the Centre as we close out our current science program, communicate outcomes and continue to work to ensure the future sustainability of the Centre beyond its current funding period.





Research Showcase: Adaptation of the South-Eastern Drainage System under a Changing Climate

Over the past two and a half years, the Institute has collaborated with the Limestone Coast Landscape Board (LCLB) to deliver a significant project that informs current and future water resources management in the south-east of South Australia.

The *Adaptation of the South-Eastern Drainage System under a changing climate* project was completed in 2025, with the project jointly funded by the Australian Government through the National Water Grid Fund, the LCLB and the South Australian Government.

The project focussed on opportunities to improve water management in the region under a changing climate, including the potential use of water in the south-east drainage network, and considering risks to primary industries and wetlands. It delivered five interconnected tasks:

1. *Quantifying the value of water.* Assessing the value of water for primary industries; estimating the value of water for non-consumptive uses aimed at achieving ecological outcomes; and understanding community willingness to pay for improved wetland health.
2. *Current and future water availability.* Development of a water balance model that integrated national and regional datasets to enable analysis of climate change impacts on the full water balance to support both short- and long-term water management decisions.

3. *Modelling groundwater and wetlands.* Advanced three-dimensional models for Bool Lagoon and a coastal karst spring restoration site test water management options such as redirecting or holding water in drains and modification of wetland basins, with results that will support balancing needs of dependent ecosystems and primary industries.
4. *Saltwater intrusion risk.* Undertaking airborne electromagnetic surveys and subsequently developing models to simulate seawater intrusions in coastal areas south of Mount Gambier to inform management options including the potential role of wetland reinstatement in controlling seawater intrusion.
5. *Groundwater, Ecology, Surface Water and Wetland Assessment Tool (GESWAT).* Developing the dynamic GESWAT GIS tool to provide a single platform for the LCLB and partner agencies to view, compare and interrogate hydrological and ecological information to inform policy and management decisions.

These tasks were delivered by researchers from CSIRO, Flinders University and the University of Adelaide, with significant collaboration with the LCLB, the South-Eastern Water Conservation and Drainage Board and the South Australian Department for Environment and Water.

This comprehensive research effort has deepened understanding of the complex interactions between surface water, groundwater and ecological systems in the Limestone Coast landscape. The insights generated will directly inform water resource planning and adaptation strategies, supporting both the region's primary industries and its environmental values. The full suite of reports are available on the Goyder Institute's website





Research Showcase: Training and capacity building in Vietnam in irrigation and water management

In November 2025, the Institute was proud to host a delegation of 15 Fellows from Vietnam in south Australia as part of the Australia Awards Fellowships Program funded by the Australian Government through the Department of Foreign Affairs and Trade (DFAT).



Australia Awards Fellowships aim to build networks of influence and leadership by strengthening partnerships between Australian organisations and partner organisations in the region. Fellowships target senior and mid-career officials and professionals who are in a position to advance development outcomes in priority areas and increase the institutional capacity of partner countries through their leadership.

The Fellows that visited South Australia represented 9 Vietnamese organisations including government agencies, research institutes, universities and irrigation companies, all with a focus on water management, agriculture, and aquaculture sectors. This intensive knowledge exchange program focused on building capacity in irrigation and water management.

Across their 14-day visit, the Fellows engaged with more than 25 Australian organisations, connecting with leading practitioners, researchers and all levels of government across Adelaide, Northern Adelaide, the Fleurieu Peninsula, Langhorne Creek and the Limestone Coast. From irrigation schemes and on-ground works to policy discussions and community engagement, the group experienced a holistic view of South Australia's approach to integrated water management and showcased the State's world leading water expertise.

The visit focused on:

- Water allocation planning
- Irrigation modernisation
- Water accounting and economics
- Managed aquifer recharge and stormwater management
- Community and stakeholder engagement
- Integrated water resource management at a basin scale

The connections, insights and partnerships developed during the visit to South Australia will inform the Fellow's case studies in Vietnam and support improvements in water allocation, irrigation efficiency, policy design and climate-resilient water governance. These learnings and partnerships will also strengthen provincial planning and foster long term Australia-Vietnam collaboration in sustainable water management.

The two-way knowledge sharing will continue in 2026 as South Australian representatives from the Goyder Institute travel to Vietnam to learn more about the Vietnamese water management contexts and case studies, and with the intention of further developing the collaborations, partnerships and friendships that have been established through this valuable Australian Awards Fellowship.



Collaborating with others

We have delivered our work in partnership and collaboration with multiple external organisations, community and First Nations representatives in addition to our partner organisations.

During 2025, we have expanded our Australian Government-funded projects across three Federal Departments (DCCEEW, DFAT and DAFF) and increased our connectivity and engagements with the Murray-Darling Basin Authority.

Our intent to collaborate with Desert Knowledge Australia has been formalised through a Memorandum of Understanding to work together in the remote water space and we have jointly explored broader collaborations to advance partnerships addressing water-related challenges for remote communities.

Through our inaugural Australian Awards Fellowships program, we have collaborated with 9 Vietnamese organisations and connected them with 25 South Australian organisations, creating collaborative opportunities, networking and two-way knowledge sharing. Ongoing partnerships and collaboration have formed a key focus of discussions.

We continue to advocate for collaborative and partnership approaches to address complex water challenges and for evidence-based decision-making to be supported by the best available science.

Australian Government and Statutory Agencies

Department of Climate Change, Energy, the Environment and Water, Commonwealth Environmental Water Holder, Department of Foreign Affairs and Trade, Department of Agriculture, Fisheries and Forestry, Murray-Darling Basin Authority

State Government Agencies

South Australian Department for Environment and Water, South Australian Department for Energy and Mining, PIRSA/SARDI, SA Water, EPA, Infrastructure SA, Northern Territory Department of Lands, Planning and Environment

Regional/Local Governments

Limestone Coast Landscape Board, Hills and Fleurieu Landscape Board, Murraylands and Riverland Landscape Board, Green Adelaide, Alexandrina Council, Coorong District Council, City of Marion, City of Salisbury

Industry, Utilities, Statutory Bodies and Communities

Ngarrindjeri Aboriginal Corporation, Burrendies Aboriginal Corporation, Arabana Aboriginal Corporation, community and industry groups and First Nations representatives within the CLLMM region, Langhorne Creek Grape and Wine Incorporated, One Basin CRC, representative groups within the Riverland region of South Australia (e.g. Almond Board, Renmark Irrigation Trust), South Eastern Water Conservation and Drainage Board, Desert Knowledge Australia

International organisations

Dundalk Institute of Technology (Ireland), Indigenous Services Canada, University of Otago (NZ), Victoria University (NZ), Vietnam Ministry of Agriculture and Environment, Vietnam Academy of Agriculture Science, Vietnam Institute for Water and Environment, Vietnam Academy of Water Resources, Da Do Irrigation (Vietnam), Hue University (Vietnam), Thuy Loi University (Vietnam), Virginia Tech University (USA)



Working to the future

As we approach the conclusion of the Institute's third term, we are excited to look ahead to 2026 and beyond as we prepare for the Institute's fourth term commencing on 1 July 2026.

This next chapter will see the Institute move to Flinders University as its new legal manager. We look forward to working closely with all our partners in identifying new opportunities for collaboration and impact. We also embrace the transition to the new Adelaide University and look forward to working closely with all members of the combined institution.

The first half of 2026 will focus on strategic planning to define the Institute's priorities for its fourth term. Through engagement with our partners and collaborators, we will identify emerging water challenges across multiple scales and shape the key focus areas for research, capacity building and impact.

We will continue to deliver our research portfolio, foster new partnerships, and seek opportunities to enhance the Institute's visibility and influence across local, state, national and international arenas. Sustaining the CLLMM Research Centre remains a priority ensuring continued knowledge creation, sharing and engagement at the end of the Murray-Darling Basin. Through these initiatives, we aim to strengthen the Institute's role as a trusted source of independent, applied research that informs evidence-based water management and supports resilient, adaptive communities and environments.



Financial statement

To ensure transparency and accountability the Goyder Institute for Water Research collaboration agreement includes a requirement for an annual audit of the Goyder Institute accounts.

The audit for the 2024/2025 financial year was conducted by Messenger Zerner Chartered Accountants, and an unqualified audit certificate has been provided.

Projects delivered or secured during 2025:

| Project | Funding Body |
|---|--|
| CLLMM Research Centre | Australian Government (DCCEEW) |
| Adaptation of the South-Eastern drainage system under a changing climate | Limestone Coast Landscape Board/Australian Government (National Water Grid Fund) |
| Administrative hosting of the One Basin Cooperative Research Centre Loxton Hub | One Basin CRC |
| Analysis of changes in high-intensity rainfall events in South Australia | South Australian Government (DEW) |
| Australian Awards Fellowship: <i>Training and capacity building in Vietnam in irrigation and water management</i> | Australian Government (Department of Foreign Affairs and Trade) |
| Carp Biological Control Program – Environmental Impacts to Matters of National Environmental Significance | Australian Government (Department of Agriculture, Fisheries and Forestry) |



