MSSANZ NEWSLETTER

MODSIM2025 CONGRESS

Modelling for positive change: Bridging science and society

Adelaide Convention Centre in South Australia
Sunday 30 November to Thursday 4 December 2025
Congress Convenors:
Dr John Boland, University of South Australia
Dr Seth Westra, University of Adelaide
Dr Okke Batelaan, Flinders University

https://www.mssanz.org.au/modsim2025/

INSIDE THIS ISSUE

MSSANZ aims to promote, develop and assist in the study of all areas of modelling and simulation.

The society's main activity is organising the MODSIM biennial congresses on modelling and simulation (the first in 1974). These congresses are highly regarded and well attended and attract strong student representation through the award of student prizes and subsidised registration.

MODSIM2025 Update

MODSIM2025 Update

Planning for MODSIM 2025 is now well underway, and we are excited about the program shaping up in Adelaide. We are fortunate to have our four dedicated conveners leading the scientific content, supported by the experienced team at CONLOG, who are managing all logistical aspects to ensure a smooth and successful conference experience (see below for more information).

Please note that the deadline for full paper submissions is Friday, 22 August, allowing sufficient time for review and feedback before the conference. If you are planning to submit only a one- to two-page abstract, the extended deadline is 5 September. We encourage all contributors to plan accordingly to meet these timelines.

Full details of the conference, including registration, submission guidelines, and program updates, can be found on the next page and online at:
https://www.mssanz.org.au/modsim2025/

MODSIM2025 CONGRESS

Modelling for positive change: Bridging science and society

Adelaide Convention Centre in South Australia
Sunday 30 November to Thursday 4 December 2025
Congress Convenors:
Dr John Boland, University of South Australia
Dr Seth Westra, University of Adelaide
Dr Okke Batelaan, Flinders University

Organising Committee

Dr Kate Holland (Chair)
Dr Russell Crosbie
Dr Mahdi Montazeri

Program Committee

Dr Okke Batelaan (chair)
Dr Kate Holland
Dr David Post
Prof. Dan Ames
Prof. John Boland
A. Prof. Felix Chan
Prof. Chia-Lin Chang
Prof. Min Chen
Dr Lui Cirocco
A. Prof. Barry Croke
Dr Simon Dunstall
Prof. Jason Evans
Dr Jens Froese
Dr Adrian Grantham
Dr Danlu Guo
Dr Linh Ho
Prof. Irene Hudson
Dr Shawn Laffan
Dr Anna Lintern
Prof. Kate O'Brien
Dr Hazel Parry
Dr Murray Peel
Dr Stefan Reis
Dr Oz Sahin
Prof. Jason Sharples
Dr Val Snow
Dr Georgy Sofronov
Dr Hasan Turan
Dr Jai Vaze
Dr Conrad Wasko
Dr Andrew Western
Prof. Yongqiang Zhang

MODSIM2025 Streams

A. Applied and computational mathematics
Stream Leaders:
Barry Croke and Georgy Sofronov

B. Biological systems
Stream Leaders:
Val Snow and Hazel Parry

C. Computer science and engineering
Stream Leaders:
Min Chen and Dan Ames

D. Economics and finance
Stream Leaders:
Chia-Lin Chang, Felix Chan and Linh Ho

E. Energy, integrated infrastructure and urban planning
Stream Leaders:
John Boland and Lui Cirocco

F. Environment and ecology
Stream Leaders:
Stefan Reis and Shawn Laffan

G. Global change and natural hazards
Stream Leaders:
Jason Evans and Jason Sharples

H. Health and biosecurity
Stream Leaders:
Irene Hudson and Jens Froese

Two presentation types will be featured at the congress: oral and poster.

For either presentation type, authors can choose whether to submit a full paper or an extended abstract.

For further information see:
Instructions for authors – MODSIM2025

Key Dates

Call for Session Proposals closes:
28 February 2025

Conference Registration opens:
11 March 2025

Early-bird registration closes:
31 July 2025

Submission of full paper for peer review close:
22 August 2025

Submission of abstracts close:
5 September 2025

Conference Program available:
1 November 2025

Conference opens:
Sunday 30 November 2025

Post Conference Workshop:
Friday 5 December 2025

I. Participatory decision-making, socioecological systems, and education
Stream Leaders:
Oz Sahin and Kate O'Brien

J. Water resources
Stream Leaders:
Jai Vaze and Murray Peel

K. Hydroclimate
Stream Leaders:
Yongqiang Zhang and Conrad Wasko

L. Water quality
Stream Leaders:
Andrew Western, Danlu Guo and Anna Lintern

M. Operations research
Stream Leaders:
Simon Dunstall and Hasan Turan

President's Report

President's Report

MSSANZ members,

MODSIM 2023 now seems like a long time ago, and with 30 months between MODSIM 2023 and MODSIM 2025, we have had a lot of time to prepare. It is with some sadness to report that after many years working with us, Karen Mobbs has retired to look after her health.

Replacing Karen was not easy, and we've had to bring in a cohort of people, so I'd like to welcome our new EO, Ivy Miao who has been responsible for compiling this newsletter and keeping us on track in our monthly Executive meetings and quarterly Management committee meetings.

I'd also like to welcome CONLOG on board as our new conference organisers, and specifically Emma Wundersitz and Samantha Hart who are providing us with much needed assistance as MODSIM 2025 approaches.

I'd also like to welcome our new Stream Leaders (see above) and to acknowledge Malcolm McPhee who has stepped down as Stream Leader after many years of service to the Society.

Finally, I would like to thank the organisers of the APSIM 30-year Symposium 2025 for their collaboration in bringing together leading voices and new research on APSIM development, enriching scientific exchange and strengthening connections across our community.

I look forward to seeing all members, old and new at MODSIM 2025 in Adelaide!

David.

Treasurer's Report

Treasurer's Report

Dear All,

A major activity of MSSANZ during the 2023–24 financial year was running the MODSIM2023 congress held at the Darwin Convention Centre, Darwin, Northern Territory, in July 2023. The other main activities were the 1st Australia and New Zealand Water Quality Modelling Symposium at Queenstown, New Zealand, in April 2024, and the celebration of the 50th Anniversary of the Society in May 2024. MSSANZ remains in a strong financial position in 2023-2024. The society still maintains its regular income sources, mainly the interest gained from our 'sinking fund' term deposit and business online saver account.

The 2023-2024 financial records have been fully audited by Les Ellis and Associates Pty.

Please contact me via email (treasurer@mssanz.org.au) if you wish to view the Society's financial statements or to discuss any aspect of the financial management of MSSANZ.

Georgy Sofronov
MSSANZ Treasurer

MODSIM2023/25th International Congress on Modelling and Simulation
Darwin Convention Centre, Darwin, Northern Territory, 9 to 13 July 2023

Report on MODSIM2023

Report on MODSIM2023

Numbers were slightly down at MODSIM2023 (526 delegates), and we think that was because Darwin was a more difficult (and expensive!) destination. One thing that stood out however was the increase in the number of international delegates, with 111 international delegates attending. 42 of those were from China, and 16 each from Korea and New Zealand. Numbers were also down due to limited participation from the NT with only 18 delegates from there. Victoria continues to be a leader, with 95 delegates, 82 from NSW and 79 from the ACT. Despite the slightly lower number of delegates, a great time was had by all, and Darwin certainly turned on the weather for us.

Our post-conference survey once again had a great response rate, with 98 responses. Key learnings from the survey to take forward to MODSIM2025 were:

- Strong preference to keep the new plenary time (just before lunch).
- Broad support for our current Streams and belief that the number of sessions is about right.
- Wide support for the conference kicking off on Sunday with a plenary talk and welcome function.
- Very strong support (84%) for allowing presenters to upload presentations ahead of the conference, but recognition for the ability to do it on-site also.
- Strong support (80%) for the ability to access presentations after the conference and 84% of respondents indicated that they would grant permission for others to access their slides in this way.

We will take these lessons learnt (along with more general lessons like the need for an early morning coffee cart!) to the planning for MODSIM2025 in Adelaide. I hope to see you there!

2023 Biennial Medallists

– Presented at MODSIM2023

Dr Jai Vaze, CSIRO, Australia

Dr Vaze is an internationally recognised hydrologist developing methods to estimate runoff in ungauged catchments and studying the impacts of land use and climate change on catchment, regional and continental scale water balance. He is currently a Research Team Leader (Water Resources Assessment Team) within CSIRO Environment research unit. He has led many major externally funded projects including Australian Water Resource Assessment (AWRA), MDBA floodplain inundation modelling to support Basin Plan and Northern rivers Resilience Initiative (NRRI). He collaborates widely with leading scientists from Australian Universities and State Government Departments, and from France, UK, USA, Ireland, South Africa, China, Nepal, and India. He has worked (and continues to work) on and led many other high impact projects that contribute to key national initiatives including the CSIRO Sustainable Yields projects, the AWRA project, the MDBA floodplain inundation modelling project, the eWater Source, SEACI, the Bioregional Assessments project and the Northern Australian Water Resources Assessment project.

His other interests include: Regional and continental water assessments and accounting, catchment hydrology, process conceptualisation, integrated modelling science, hydroclimate nonstationarity, spatial modelling, predictions in ungauged basins, river system modelling, water resource management, floodplain inundation modelling.

Dr Valerie Snow, New Zealand Institute for Bioeconomy Science

Val is a Principal Scientist at a Crown Research Institute that focusses on the pastoral sector in New Zealand. Her interests are in developing and applying process-based models of agricultural systems. With a foundational training in soil physics and agricultural systems, her skills have been enriched through experience across diverse primary production systems – from sub-surface irrigation in the Midwest of the USA, to plantation forestry and various cropping systems in Australia, to intensive vegetable production and pastoral production systems in New Zealand. Her recent research projects include: using process-based simulation to support development of national environmental risk tool regulators and farmers to use in freshwater policy development and application; simulation-assisted machine learning for data-sparse applications; and developing capability in dynamic whole-farm systems modelling.

Val has been involved as a participant with MSSANZ since some time last century (the 1990s but she can't quite remember exactly when) and has been actively involved through the Society committees as well as co-convening sessions and, since MODSIM 2021, co-convening the Biological Systems Stream. She was made a Fellow of MSSANZ in 2018 and currently serves as the President of the International Environmental Modelling and Software Society.

2023 Biennial Medallists

Dr Jai Vaze

Dr Valerie Snow

Professor Yongqiang Zhang, Chinese Academy of Sciences

Professor Yongqiang Zhang

Yongqiang is a distinguished Professor at the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences (CAS), and Deputy Director of the Key Laboratory of Water Cycle and Related Land Surface Processes, where he oversees a team of 70 hydrologists. With 27 years of research experience in hydrology and water resources, Yongqiang has authored over 280 journal papers, including publications in top journals such as *Science*, *Nature Water*, and *Nature Communications*. He has received more than 19,000 Google Scholar citations, an H-index of 68, and ranks among the top seven globally in evapotranspiration (ET) research. His PML-ET model, a benchmark for IPCC climate assessments, has transformed the understanding of the Earth's water cycle and climate systems. It has been utilized by over 300 institutions worldwide and has contributed to key reports such as the *State of the Climate*. In 2023, his *Science* paper on global water availability garnered significant international attention, highlighting his profound impact on both the scientific community and the public.

Yongqiang maintains strong global connections, particularly with Australia. He spent 13 years at CSIRO, where he advanced to the role of Principal Research Scientist in 2014. He has been co-organizing sessions for MODSIMs since 2013, delivered the MSSANZ mid-career plenary lecture in 2019, and was awarded the Biennial Medal in 2023. He is also a Fellow of the Alexander von Humboldt Foundation, Germany. Currently, he serves as the Director of the Hydro-Geography Committee of the Geographical Society of China. In addition, he is a member of the editorial boards of six major international journals, including *Journal of Geophysical Research: Atmospheres*, *Journal of Hydrology*, and *Remote Sensing of Environment*.

Biennial Medals

1. In every odd-numbered year, to coincide with the Biennial Congress, the Society may confer a limited number of Biennial Medals for 'exceptional research contributions to modelling and simulation, and for promoting the aims of the Society'.
2. Biennial Medallists automatically become Fellows of the Society, and are entitled to use the postnominal 'FMSSANZ'.
3. Any member of the Society may be nominated for a Biennial Medal. The proposer and seconder must be members of the Society. Self-nomination is not permitted.

2022 Fellows

– Presented at MODSIM2023

Professor Lucy Marshall, Macquarie University, Australia

Professor Lucy Marshall is the inaugural Deputy Vice Chancellor (Community and Leadership) at the University of Sydney. Her first time attending MODSIM was in 2003 as a PhD student, where she won the student prize for best presentation in the Natural Systems stream. She has gone on to lead multiple MODSIM sessions, and was co-convenor of MODSIM 2021. She is a water resources engineer, with expertise in hydrologic modelling, environmental model optimization, and quantification of uncertainty in water resources analysis. She has a special interest in understanding how environmental observations can be used to quantify uncertainty in systems undergoing change. Her research has spanned the development of new models in the most heavily instrumented watershed in the United States to making flood predictions in ungauged catchments across Australia.

Professor Brett Bryan, Deakin University, Australia

Professor Brett Bryan is a Deakin Distinguished Professor of Global Change, Environment, and Society at Deakin University, based in Melbourne. Raised on a mixed farming property in South Australia, he developed a deep understanding of the relationship between people and nature—an insight that underpins his research into sustainable land systems.

An internationally recognised expert in sustainability science, Professor Bryan focuses on developing data-driven, cost-effective policy and management solutions for coupled human and natural systems. His work integrates land-use modelling, climate change assessment, biodiversity, food and water security, and socio-economic analysis, spanning local to global scales—particularly in Australia and China.

Dr David Marlow, Defence Science and Technology Group, Australia

David is a Senior Researcher in Operations Analysis in the Human and Decision Sciences Division of the Defence Science and Technology Group (DSTG). He has vast experience in Defence operations research, with primary research interests in simulation and optimisation. He has applied these techniques to problems in maritime surveillance search, aircraft fleet sizing and aircraft fleet management. His current interests are in developing and applying design of experiment techniques to large-scale simulation models.

David has attended every MODSIM since 2007. He has been an active participant at MODSIM in the Defence modelling, simulation and operations research communities. He has served on the Program Committee twice as a Stream Leader, and been a Session Leader three times. He has published seven MODSIM papers, twice winning best

2022 Fellows

Professor Lucy Marshall

Professor Brett Bryan

Dr David Marlow

paper awards in their respective categories. He also currently serves on the MSSANZ Management Committee.

David is the second DSTG staff member to become an MSSANZ Fellow, following in the pioneering footsteps of Dr Tony Dekker. David has served on various local and national committees of the Australian Society of Operations Research for over a decade. He is also an Associate Editor of Military Operations Research, and the first from outside the USA.

Associate Professor Fiona Johnson, University of New South Wales Sydney, Australia

Fiona is the Director of the Water Research Centre at UNSW and is an academic in the School of Civil and Environmental Engineering. Her research focuses on data-driven hydrology, particularly with respect to flooding, droughts and extreme events and how to best assess the impacts of climate change on water resources systems. She has a particular interest in sustainable solutions to climate and hydrological challenges faced by communities in the Global South. Fiona was the local organising committee lead for MODSIM2021 and led the student awards at that conference. She received the MSSANZ Early Career Research Excellence Award in 2017.

Dr Simon Dunstall, CSIRO, Australia

Simon Dunstall is a member of the Analytics and Decision Sciences (A&DS) program in Data61, and presently is deputy research director for A&DS. Previously he was research director of the Decision Sciences program in Data61 (2015-2019). Simon is a researcher in risk analytics and optimisation, especially in topics associated with hazards and extreme events. This has included engagements with the Victorian Powerline Bushfire Safety Program, Cladding Safety Victoria, Dept of Home Affairs and Dept. Health, and the majority of the electricity distribution companies in Australia. In addition to his role at CSIRO, Simon is the current national president of the Australian Society for Operations Research (ASOR).

The MSSANZ president emails the Society members a call for nomination for both Biennial Medallists (odd years) and MSSANZ Fellows (even years). When these call for nominations happen, we strongly encourage members to nominate colleagues whom they consider to be worthy of the awards. More information is available at www.mssanz.org.au/awards/criteria.html.

The MSSANZ Fellowships recognise the dedication of the awardees to promoting the aims of the Society as well as for their contributions to modelling and simulation. We warmly thank all of the 2020 Fellows for their contributions to the congresses and the Society over the years.

Associate Professor Fiona Johnson

Dr Simon Dunstall

2023 Early Career Research Excellence Awards

Dr Fiona Tang, Monash University, Australia

Fiona is a Lecturer in the Department of Civil and Environmental Engineering at Monash University. Her research makes use of computational modelling to assess the environmental impacts of food and agricultural production, with a focus on agrochemical pollution. She has mapped the risk of pesticide pollution at the global scale and quantified the pesticide footprints embodied in international trade. Fiona has co-authored the science brief on Target 7 – Pollution, contributing to the Post-2020 Global Biodiversity Framework negotiations. She also served as an expert contributor to the 2024 Environmental Performance Index. Fiona was a member of the organising committee of MODSIM2021 and helped organised the Early Career Researcher events at both MODSIM2021 and MODSIM2023. She is currently serving as an Editorial Board Member for Communications Earth and Environment.

Dr Firouzeh (Rosa) Taghikhah, University of Sydney, Australia

Rosa is a Lecturer in Business Analytics at the University of Sydney Business School. Her research focuses on developing analytical decision support systems (DSS) that enhance transparency, robustness, and scalability in high-stakes decision-making under uncertainty. They are designed to support critical decisions where risks are high, resources are limited, and outcomes have long-term consequences. These systems have been applied across key sectors—energy, food, water, and supply chain— to balance efficiency, resiliency, and strategic foresight. Rosa has led and organized research streams on artificial intelligence (AI) for environmental science at MODSIM2021 and 2023, fostering interdisciplinary collaboration. She also guest-edited a special issue on the same topic in the Journal of Environmental Management, broadening the impact of AI-driven research in this domain. Earlier in 2022, she received the Early Career Research Excellence Prize by the International Environmental Modelling and Software Society. Beyond her academic work, she is a dedicated STEM Ambassador, actively encouraging young women to pursue careers in data science.

Dr Siyuan Tian, Bureau of Meteorology, Australia

Siyuan completed her PhD at the Australian National University in 2019, where she demonstrated the potential of forecasting drought impacts on vegetation through the assimilation of satellite observations of water presence over different vertical domains into an eco-hydrological model. Her research interest focuses on advancing land surface models to enhance water resources assessment and improve regional weather and climate simulations. She is one of the lead researchers behind the development of the data assimilation algorithm for the Australian Water Outlook system. Currently, she is leading the development of the next generation of landscape water models at the Bureau of Meteorology to enable seamless nationwide hydrological forecasting, from historical analysis to future projections. Siyuan has led sessions on land surface modelling and data assimilation at several MODSIM conferences. She also serves as a module leader for the Joint UK Land Environment Simulator science and application committee.

Dr Fiona Tang

Dr Firouzeh (Rosa) Taghikhah

Dr Siyuan Tian

MODSIM2023 Student Awards

Best student oral presentation

- Sarah Vollert, Queensland University of Technology
  Unlocking ensemble ecosystem modelling for simulation of high-dimensional networks: From days to minutes

- Tanvir Mahmud Saurav, University of New South Wales, Canberra
  A computational framework for phenomenological modelling of ember storms at the wildland-urban interface

Commendation for student oral presentation

- Caroline Rosello, Australian National University
  Identifying factors influencing water planning: Benefits of a capability approach?

- Gabrielle Burns, The University of Melbourne
  A practical approach to assessing climate change impacts on snow cover and streamflow in southeast Australia

Commendation for student poster

- Luca Trotter, The University of Melbourne
  Variable storage capacity in hydrological models to enhance performance under contrasting climates

Story from Dr Caroline Rosello:
" I am an early-career researcher currently completing a post-doc in anticipatory planning and management. My first MODSIM experience was in Sydney in 2021, shortly after the COVID-19 lockdowns. It was a difficult period for many, but the conference offered a genuine sense of reconnection and belonging. I still remember the closing dinner, where open, human conversations made me feel part of the MODSIM family.

When MODSIM2023 in Darwin was announced, it felt like a chance to reunite with familiar faces. Presenting my research was no longer stressful—it became an opportunity to share progress and exchange ideas. Receiving a commendation for my oral student presentation was deeply rewarding, both as recognition of my work and as a reflection of the support I had throughout my PhD.

MODSIM has given me more than I could have imagined—boosting my confidence, fostering a spirit of sharing, and shaping how I connect with peers and stakeholders alike. I am now looking to progress my academic career following the end of my postdoctoral research in September 2025 and look forward to continuing to engage with the MODSIM community in the years ahead. "

MODSIM proudly supports emerging science talent with two student awards for best presentation and best poster since 2007. The judging is undertaken by experienced scientists attending the conference who rank student work according to their scientific merit and ability to convey key messages to a wide audience. Each assessment is completed via online forms that are eventually analysed by the award committee to select the winners. At MODSIM 23, 159 judges provided feedback on 123 student presentations and posters.

Special Thank you to MODSIM2023 Sponsor – eWater

eWater Group is a leader in water modelling and simulation, developing tools that support sustainable, evidence-based water management across Australia and internationally. Our software – eWater MUSIC, Australia's leading stormwater modelling tool, and eWater Source, the National Hydrological Modelling Platform – help users simulate river systems, catchments, and urban water cycles. These platforms are trusted by Australian and international governments, water authorities, utilities, and consultants to test scenarios, evaluate trade-offs, and inform critical decisions around water policy, planning, and design.

We are long-standing contributors to the MODSIM community and value it as a platform where science, innovation, and practical application converge. MODSIM provides opportunities to share knowledge, strengthen collaboration, and stay at the forefront of integrated modelling – which is central to eWater's mission.

Learn more about eWater Group by visiting our website: www.ewater.org.au

eWater GROUP

Partnering - Open Modelling Foundation (OMF)

The Society is a foundation member of the Open Modeling Foundation (OMF), an international open science community that works to enable the next generation modelling of human and natural systems. It is an alliance of modelling organisations that coordinates and administers a common, community developed body of standards and best practices among diverse communities of modelling scientists.

The OMF's vision as set out in its charter is to enable open and ethical modelling efforts across diverse modelling domains to work together to present an integrated representation of the complex world in which we live. Activities include:

- Development of community standards for modelling science
- Resources to facilitate model discoverability, accessibility, reuse and interoperability
- Training and education
- Coordination and partnerships with other organisations (such as MSSANZ)

The OMF is governed by an Executive Committee and a Members Council. Your Society's representative on the Members Council is Susan Cuddy (susan.cuddy@csiro.au). Catch up with her at MODSIM2025 to find out what's involved in being the representative.

Partnering - Journals

MSSANZ has a long history of working closely with relevant journals, with members contributing to advancing the science and community of modelling and simulation through publishing in these journals, and taking on roles as editors, and reviewers. Two of our most valuable relationships are with the Environmental Modeling and Software (EMS) journal, published though Elsevier; and the more recent Socio-Environmental Systems Modelling (SESMO) journal established by our sister society, the International Environmental Modeling and Software Society (iEMSs). Both of these journals grew out of communities developed through MSSANZ and associated societies and networks.

Environmental Modeling and Software (EMS) journal

EMS is the official journal of our sister Society, IEMSs. Its aim is to improve our capacity to represent, understand, predict or manage the behaviour of natural environmental systems, including air, water, and land components, at all practical scales, and to communicate those improvements to a wide scientific and professional audience. It continues to be a highly sought after journal for MSSANZ members to publish in. The current Co-Editors-in-Chief are 2 of our distinguished members – Dan Ames and Min Chen, with Tony Jakeman as Emeritus Editor and many members acting as Editors and Associate Editors and on the Editorial Board.

Socio-Environmental Systems Modelling (SESMO) Journal

SESMO was established by iEMSs to progress our understanding, learning and decision-making on major socio-environmental issues using advances in model-grounded processes that engage with institutional and governance contexts, cross-sectoral and scale challenges and stakeholder perspectives. Current Editors in Chief are long-time MSSANZ members, Dr Sondoss El Sawah and Emeritus Prof Tony Jakeman; and MSSANZ members are highly visible on the Editorial Board. Its an exciting new and much-needed journal, and it plays a key role in building the global SESMO community. Consider it for your next journal paper! Sesmo.org

Socio-Environmental Systems Modelling (SESMO) is a peer-reviewed, open-access journal that supports the growing community of researchers developing and applying models to understand the dynamics of coupled human–environment systems. Bridging the natural and social sciences, SESMO provides a dedicated venue for scholarship that recognises the interdependencies between ecological processes and human behaviour, and the need for integrated modelling approaches to address pressing global challenges such as climate change, land-use transitions, biodiversity loss, and sustainable development.

Since its inception, SESMO has focused on advancing open, transparent, and reproducible modelling practice. It publishes a diverse array of article types including methodological contributions, empirical applications, reviews, perspectives, and structured model documentation papers that facilitate reuse and extension. The journal actively encourages contributions that push the boundaries of interdisciplinary modelling, co-produce knowledge with stakeholders, and incorporate considerations of equity, governance, and decision-support into model design.

With an international editorial board and a commitment to high-quality, accessible scholarship, SESMO plays a leading role in shaping best practice in socio-environmental systems modelling. Further information on submission guidelines, past issues, and involvement in the journal's community activities can be found at: www.sesmo.org.

Partnering – Sister Society: International Environmental Modelling & Software Society (iEMSs)

The International Environmental Modelling & Software Society (iEMSs) is a global scientific organisation committed to advancing environmental modelling, software tools, and integrated information systems that support sustainable environmental management and decision-making. With members spanning academia, government, and industry, the Society serves as a hub for scientists and practitioners working at the interface of environmental science, modelling, and digital technology.

Founded in 2002, with many MSSANZ members involved in its formation, iEMSs has built a strong reputation for providing forums that foster interdisciplinary collaboration, technical innovation, and real-world application of environmental modelling. Its biennial conferences, journal (*Environmental Modelling & Software*), and Special Interest Groups create space for critical dialogue, capacity building, and the development of new modelling approaches. Past meetings held in Asia, Europe, North America and Oceania have grown the community and stimulated methodological and software advances related to water resources, land-use change, climate, ecosystems, policy modelling, and more.

Planning is now underway for the next international iEMSs conference — iEMSs 2026, to be held at University College Dublin (UCD), Ireland. This event will bring together researchers, developers, and decision-support professionals from around the world to share tools, models, case studies, and ideas for shaping a sustainable future. Prospective delegates are warmly encouraged to visit www.iemss.org for information on membership, abstract submissions, and key dates for iEMSs 2026.

INTERNATIONAL
Environmental
Modelling & Software
SOCIETY

International Environmental Modelling and Software Society

Partnering - Water Quality Special Interest Group

The MSSANZ Water Quality Modelling Special Interest Group (SIG) is a volunteer-driven community not tied to any formal funding source. Our overarching aim is to enhance and support modelling practice and research for water quality in the environment in Australia and New Zealand. We are here to promote community building, collaboration, conversation and best practice in water quality modelling.

Started from a modest MODSIM sessions back in 2017, we gradually grew to more sessions and a Water Quality Stream in MODSIM nowadays, with a regular cohort of attendees representing a critical mass of researchers and professionals who are interested in water quality.

Our major milestones are:

- 2017–2021 – Informal meetings on water quality modelling held within MODSIMs, leading to the formation of the Water Quality Modelling Stream at MODSIM 2021. Community expressed strong interest in building an Australia/New Zealand water quality modelling community.
- 2022–2023 – Formation of the MSSANZ Water Quality Modelling Special Interest Group (SIG).
- SIG hosted two online workshops in November 2022 to identify future visions and action areas.
- 2023 – SIG hosted the Water Quality Modelling Forum at MODSIM 2023.
- Drafting and submission of a discussion paper on community future visions (based on the 2022 workshops).
- 2024 – SIG co-convened the 1st Australia and New Zealand Symposium on Water Quality Modelling to discuss how to turn visions into actions.
- 2025 – SIG published its first commentary paper on what our water quality community should do to advance the field: A commentary on strategic community-led directions for water quality modelling in Australia and New Zealand
- 2025 – SIG started holding a series of webinars on AI in Water Quality Modelling, coordinated by Barbara Robson. Please contact her (b.robson@aims.gov.au) if you are interested in attending.

We will be again hosting a Water Quality Modelling Forum at MODSIM 2025, please visit: https://www.mssanz.org.au/modsim2025/modsim-2025-water-quality-modelling-forum/

If you are interested in learning more about SIG, please visit: https://mssanz.org.au/wqsig/
To receive updates on our future events, please email to be asked to join our mailing list: waterquality.sig@mssanz.org.au. Past attendees to the MODSIM Water Quality Modelling Stream have already been included to our mailing list.

Further, we are also looking for new committee members to our current team, please drop us an email if you are interested!

WQ SIG Committee: Danlu Guo, Anna Lintern, Melanie Roberts, Sandy Elliott, Ulrike Bende-Michl and Andrew Western
Contact: waterquality.sig@mssanz.org.au

Partnering – Defence Operations Research Symposium (DORS) and the Australian Society of Operations Research (ASOR)

The first instantiation of what is now known as the Defence Operations Research Symposium (DORS) was held in the late 1990s. The symposium, generally run annually, brings together OR practitioners from across Defence Science and Technology Group (DSTG) and the broader Department of Defence. At times, DORS has been held in conjunction with other conferences, such as the ICIAM Congress for industrial and applied mathematics in 2003, and the Australian Society of Operations Research (ASOR) conference in 2016 and 2018. In parallel in 2005, a Defence and Homeland Security Applications session was run at MODSIM for the first time, led by Tony Dekker, and this session continued through 2007 (Christchurch), 2009 (Cairns) and 2011 (Perth). In 2013, DORS joined with the ASOR conference and MODSIM for the first time in Adelaide, while the Defence and Homeland Security session was also elevated to a stream. This joint conference brought together the OR and modelling and simulation communities across Defence, government, academia and industry. MODSIM combined again with ASOR and DORS as a tri-partite conference in 2015 (Gold Coast), 2017 (Hobart), 2019 (Canberra) and 2021 (Sydney/hybrid). In 2015, the Defence and Homeland Security stream was absorbed into DORS, and in 2019 and 2021, the ASOR and DORS conferences were further combined into a single stream within MODSIM.

The Australian Society For Operations Research (ASOR) was founded on 1st January, 1972 and has about 200 members nationwide. It serves the professional needs of OR analysts, managers, students and educators. ASOR has partnered with many MODSIM congresses, providing its members with exposure to the broader modelling and simulation community, and providing MODSIM participants with access to OR specialists – a valuable and valued two-way partnership. Members of ASOR convene Stream M. More information on ASOR is available from their website https://www.asor.org.au/index.php,

Biennial Congresses

MODSIM1974 | Lucas Heights NSW
MODSIM1976 | Melbourne VIC
MODSIM1978 | Canberra ACT
MODSIM1980 | Brisbane QLD
MODSIM1982 | Armidale NSW
MODSIM1984 | Adelaide SA
MODSIM1987 | Melbourne VIC
MODSIM1989 | Canberra ACT
MODSIM1991 | Gold Coast QLD
MODSIM1993 | Perth WA
MODSIM1995 | Newcastle NSW
MODSIM1997 | Hobart TAS
MODSIM1999 | Hamilton NZ
MODSIM2001 | Canberra ACT
MODSIM2003 | Townsville QLD
MODSIM2005 | Melbourne VIC
MODSIM2007 | Christchurch NZ
MODSIM2009 | Cairns QLD
MODSIM2011 | Perth WA
MODSIM2013 | Adelaide SA
MODSIM2015 | Gold Coast QLD
MODSIM2017 | Hobart TAS
MODSIM2019 | Canberra ACT
MODSIM2021 | Sydney NSW
MODSIM2023 | Darwin NT
MODSIM2025 | Adelaide SA
MODSIM2027 | Location to be revealed at MODSIM2025