

**ANNUAL
PROGRESS REPORT
2024-25**

storm

tsunami

earthquake

bushfire

cyclone

heatwave

flood

coastal
inundation

Natural Hazards Research Australia's staff work from Burramattagal, Dharawal, Dharug, Dja Dja Wurrung, Gadigal, Turrbal/Yuggera, Wadawurrung, Wangal and Wurundjeri Countries. We thank and acknowledge the Traditional Custodians of these lands and all the lands where we work, live and walk, and pay our respects to Elders past, present and emerging. We recognise that these lands and waters have always been places of teaching, research and learning, and that sovereignty has not been ceded. We are committed to strengthening reconciliation and building resilience through respectful and empowering relationships with First Nations communities, peoples and partners.

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Publisher: Natural Hazards Research Australia July 2025

Citation: Natural Hazards Research Australia (2025) Annual Progress Report 2024–25

Access at naturalhazards.com.au/corporate-documents

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Natural Hazards Research Australia is funded by the Australian Government and Participants.



Australian Government



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Introduction

From the Chair

Born from the bold vision of building safer, stronger communities, Natural Hazards Research Australia (the Centre) continues to lead with purpose in a world where resilience has never been more essential.

That vision continues to guide us and this past year underscores just how critical our mission has become.

The year 2024–25 has seen Australia face a series of significant natural hazard events—floods, cyclones, and bushfires—that have tested our systems and communities. These events also reinforce the importance of our work: delivering research that is not only rigorous and innovative, but also practical, timely and accessible to those making decisions on the ground.

The Centre has also marked a major milestone this year—21 years of national natural hazards research, beginning with the Bushfire Cooperative Research Centre (CRC) in 2003. This anniversary reflects the evolution of Australia’s research capability and the growing maturity of our sector.

As the Centre has grown so too has the importance of strong governance. The Board remained deeply engaged in ensuring the Centre’s strategic direction, risk management and operational integrity are robust and future focused. We have overseen the development and implementation of 15 new workplace policies, the establishment of a legal counsel role and the restructuring of our Science and Innovation and Research Services teams to strengthen our data, education and evaluation capabilities. These steps reflect our commitment to sound governance and continuous improvement.

The Board also supported the expansion of our national footprint, with 24 staff now working across four states and the co-location of our Brisbane node with the Australian Red Cross Queensland State Office. We welcomed four new research providers, bringing our total to 57 and signed a new Participant agreement with Fire Protection Association Australia, further broadening our collaborative base.

We took important steps toward the future. With the 2024–26 Biennial Research Plan nearing its conclusion, a new research framework has been approved and is ready for socialisation. This next phase builds on our achievements and respond to the evolving landscape of risk—where climate change, urbanisation and technological shifts intersect with natural hazards in complex ways.

Our commitment to inclusion and ethical research practice was strengthened through the establishment of the First Nations Pathways Group and the adoption of new provisions in our research agreements to protect Indigenous Cultural and Intellectual Property (ICIP), ensuring First Nations ownership is acknowledged and respected.

We continued to demonstrate agility through Stakeholder Research and Implementation briefings across Tasmania, New South Wales, the Australian Capital Territory and Queensland and exchanged knowledge through international collaborations that enrich our national capability.

Looking ahead, the Board remains focused on ensuring the Centre continues to deliver value to its Participants and the broader community. We will deepen our stakeholder engagement, enhance our internal capabilities and ensure our governance structures remain fit for purpose in a rapidly changing environment.

On behalf of the Board and Directors, I extend my sincere thanks to everyone who contributed to our progress this year—researchers, postgraduate students, Participants, community members and Centre staff. Your dedication and collaboration are what make this work meaningful and impactful.

Let us continue to be ambitious, innovative and united in our mission. These challenges are complex, but with strong governance, diverse expertise and a shared commitment, we are well-positioned to navigate them with purpose and impact.

Iain MacKenzie, Chair, Natural Hazards Research Australia



From the CEO

The Centre's 2024–25 Annual Progress Report celebrates the successful achievement of research utilisation in partnership with the Centre's Participants and researchers to build safer, more resilient and sustainable communities.

After only four years of operation, this success highlights delivery beyond expectations. The Centre is contributing to all 24 actions detailed in the Commonwealth National Action Plan for Disaster Risk Reduction and continued implementation of the Royal Commission into National Natural Disaster Arrangements' recommendations.

The Centre maintains its vital role in fostering a collaborative end-user driven research eco-system with 32 formal Participants from all states and territories and 57 research providers. We are also now home to a diverse cohort of 335 researchers supporting disaster resilience and reducing disaster risk.

The Natural Hazards Research Forum 2025 showcased the Centre's success. More than 600 registrants from 200-plus organisations highlights the need and hunger for research utilisation and bold thinking in the face of worsening natural hazard risk. The executive masterclass focused on building innovation and strategic foresight capabilities and the launch of the State of Disaster Resilience in Australia 2025 report presented findings from the second edition of the Australian Disaster Resilience Index (ADRI-2).

Just over \$30 million in research investment has been allocated across 92 core research projects with two end-user driven research concept rounds conducted in 2024–25. Importantly, 29 research projects are now complete, enabling research translation and ultimately use. The quality of the Centre's research is demonstrated through the national recognition our researchers have received in awards and accolades.

The Centre continued to successfully manage two large contract research portfolios for the Victorian Country Fire Authority (CFA) and Victorian Department of Energy, Environment and Climate Action (DEECA).

Research impact is actively and consistently evaluated through a robust framework and in partnership with Participants and stakeholders.

This includes the Australian Disaster Resilience Index (ADRI) informing government reporting and decision-making and its use in the Australian Government's Measuring What Matters Statement.

Research findings continue to be incorporated into national emergency management and resilience doctrine and training and community-led place-based research strengthening Wiradjuri and Wolgalu Aboriginal cultural knowledge in the Brungle-Tumut Indigenous ranger program, Bugang Bila.

Building on *Be Ahead of Ready*, the Centre continued to foster bold thinking through industry presentations and workshops. The Centre also partnered with Suncorp ahead of the Global Nature Positive Summit to co-produce the nature positive disaster risk reduction solutions discussion paper and roundtable.

Strong, proactive media engagement communicating evidence-based community messages led to the Centre and its researchers featuring in the media 1,805 times during the reporting period, including significant media coverage during the LA fires, ex-Tropical Cyclone Alfred and Mid-North Coast New South Wales flooding.

Investment in next-generation sector and research capability was a key focus with 55 post-graduate and 28 associate student participants. Eight early-career fellowships are building in-depth, useable research and the Centre's innovative internship and First Nations Scholarship program will continue to bridge the gap between research and industry.

In its fourth iteration, the Centre's Disaster Challenge continues to inspire and support early and mid-career researchers and practitioners to innovate and connect with industry. Congratulations to the 2024 winners, Craig Ridep-Morris, Alison Sheaves and Madison Green from James Cook University for their project *Building trust and resilience: Improving community disaster response through personalised messaging*.

The Centre continued to foster excellence in the science and management of natural hazards, advocating for the next generation of natural hazards leaders through the Early and Mid-Career Academic and Practitioners Network's (EMCAP) 119 members.

Throughout the year, the Centre contributed strategic expert advice to initiatives including the National Emergency Management Agency (NEMA) Disaster Risk Profile and the National Climate Change Risk Assessment. The Centre also led the establishment, alongside key representatives from the United States and New Zealand, of an International Community of Practice on Assisted Relocation, delivering a successful on topic workshop at the Natural Hazards Research Forum 2025 (NHRF25).

The Centre continues to walk alongside Aboriginal and Torres Strait Islander communities through the newly established First Nations Pathways Working Group consisting of representatives informing the revision of the Centre's ten-year research strategy.

Looking to 2025–26, the Centre will continue expanding its research program with research utilisation as a key priority. This will include revising our 10-year Research Strategy to ensure it is future focused and best placed to achieve the Centre's vision and mission.

I look forward to continuing to work with Participants, researchers and staff to achieve our vital mission. Thank you for your incredible efforts throughout the year – together we are making real progress toward a safer, more resilient and sustainable Australia.

Andrew Gissing, CEO, Natural Hazards Research Australia



Overview of the Centre

Natural Hazards Research Australia (the Centre) is Australia’s leading research centre for natural hazards resilience and disaster risk reduction. Established 1 July 2021, the Centre focuses on research that promotes natural hazard resilience and reduces disaster risk. This unique approach supports the needs of end-users including emergency service agencies, all levels of government, industry and communities.

Since its inception on 1 July 2021, the Centre has been committed to delivering impactful research that strengthens Australia’s ability to withstand and recover from natural disasters.

Building on the legacy of its predecessors, the Centre prioritises research that directly supports key stakeholders—emergency services, government bodies at all levels, industry partners, and communities—by helping them prepare for, respond to and recover from disasters caused by natural hazards.

As both a thought leader and a driving force in expanding Australia’s natural hazards research landscape, the Centre ensures that its work informs policy and practice at national and regional levels. Its efforts contribute to enhancing public safety, resilience, and long-term sustainability across the country.

Vision

That communities will be safer, more resilient and sustainable in the face of natural hazards.

Mission

To work with partners and the community on research that is useful, actionable and supportive of better decision-making to save lives and protect communities.

COMMUNITY ENGAGEMENT AND BEHAVIOUR CHANGE

AUSTRALIAN WARNING SYSTEM

NATURAL HAZARDS RISK MODELLING

RESILIENCE IN INDIGENOUS COMMUNITIES

AUSTRALIAN FIRE DANGER RATING SYSTEM

SCHOOL EDUCATION

TOOLS FOR DISASTER RECOVERY

PUBLIC UNDERSTANDING OF NATURAL HAZARDS

27 MILLION AUSTRALIANS BENEFIT FROM OUR RESEARCH

ENHANCING EMERGENCY MANAGEMENT DECISION MAKING

HOUSEHOLD TROPICAL CYCLONE RISK MITIGATION

BUILDING WORKFORCE CAPABILITY

SAFETY OF FIRST RESPONDERS

DISASTER MITIGATION PRIORITISATION

BETTER UNDERSTANDING THE TRUE COSTS OF NATURAL HAZARDS

LAND USE PLANNING POLICY

SAFETY OF PETS AND ANIMALS



Summary of outputs

During the reporting period, 2,029 research outputs were produced spanning academic and industry-facing journal articles, event presentations and project reports (Table 1).

- Research projects featured in ten Hazardous Webinars and Centre scholarship recipients presented posters and presentations at AFAC24, the Floodplain Management Australia National Conference, Victoria and the Fire Australia 2025 as a direct result of Centre engagement with these Participants.
- Includes 1,805 media mentions by Centre staff and researchers.
- Includes 221 industry training courses, workshops, knowledge sharing forums and international exchanges/collaborations and output-targeted meetings, award courses, final project reports, thought leadership reports and briefing notes.
- Comprises 88 oral, poster and paper conference presentations
- The Centre produced 41 academic publications in the reporting period.



Table 1: Research outputs summary, 2022–25

Research outputs*	2022–23	2023–24	2024–25	2022–25
New technologies and systems	–	10	2	12
Published journal articles and book chapters	18	36	41	95
Conference presentations (oral, poster, paper)	113	52	88	253
Media mentions (includes newspaper articles, radio interviews, etc.)	177	215	1,805	2,197
Other ^(a)	14	62	93	169
TOTAL	322	313	2,029	2,726

*For a more detailed list of outputs, refer to Appendix 3: Research outputs.

(a) Includes industry training courses, workshops, knowledge sharing forums and international exchanges/collaborations and output-targeted meetings, award courses, final project reports, thought leadership reports and briefing notes.

Key achievements

The Centre continues to work closely with the Australian Government and Participants to deliver a national natural hazards research capability that tackles the critical questions around natural hazards. It is on track to deliver on its Strategic Plan 2021–2031 and 10-year Research Strategy.

This report highlights the Centre's achievements in building on its strategic direction with its network of Participants and a targeted national research program.

Governance, management and partnerships

The Centre's collaborative approach ensures that research is shaped, guided, and supported by government and industry. This is achieved through active involvement from our Participants and the communities they represent.

Achievements

21 YEARS OF NATURAL HAZARDS RESEARCH

- Twenty-one years of natural hazards research and the maturation of Australia's research sector celebrated since the establishment of the Bushfire CRC in 2003.
- Four new research providers onboarded bringing the total to 57 providers including tertiary institutions, consulting firms and government agencies at all levels.
- Staffing capacity increased to 24 professionals in the New South Wales, Queensland, Victorian and Western Australian nodes.
- Participant agreement with Fire Protection Association Australia signed.
- Development, review and implementation of 15 workplace policies.
- Brisbane node office co-located in the Australian Red Cross Queensland State Office.
- Science and Innovation and Research Services team restructure strengthened data management, education and training and evaluation capabilities.
- Legal counsel role established to enhance governance and operational capacity to deliver research.
- Stakeholder Research and Implementation briefings in Tasmania, New South Wales, Australian Capital Territory and Queensland demonstrated research program's agility and responsiveness to meet emerging needs.
- First Nations Pathways Working Group established in May 2025.
- Indigenous Cultural and Intellectual Property (ICIP) provisions adopted in research agreements to ensure First Nations contributions to Centre research projects are protected.
- Knowledge exchange through mutually beneficial international collaborations.

Research and implementation

The Centre's research program continues to demonstrate agility and responsiveness to meet Participants' emerging needs.

Achievements

**92 TOTAL
RESEARCH PROJECTS
63 IN PROGRESS
29 COMPLETED**

- NEMA launched the refreshed *Australian Disaster Resilience Index* (ADRI-2) with data informing key government reports including the Commonwealth Measuring What Matters Statement.
- The Australian Institute for Disaster Resilience's (AIDR) Planning for Animals Handbook developed from Centre research, informing national doctrine.
- *Cultural land management principles and protocols* resources for engaging with First Nations communities is nationally referenced as best-practice for respectful and collaborative First Nations engagement.
- End-users from five agencies from four states and territories applied for access to the recently launched *Extreme Fire Behaviour knowledge modules*.
- NSW Government use of *Capability Maturity Assessment Tool* to deliver state-wide capability assessment of maturity to meet severe to catastrophic disasters.
- Local and state Tasmanian governments applied findings from award winning *Bushfire risk at the rural-urban interface* project to reduce peri-urban bushfire risk with strong interest from other states and territories.
- AFAC and other emergency service agencies use of the *National volunteer sustainability blueprint* to address volunteering bureaucratic hurdles and training priorities.
- South Australian Fire and Emergency Services Commission (SAFECOM) use of *Transformative Scenarios knowledge modules* to explore strategic planning strengths, weaknesses, opportunities and threats with Commissioners and Chief Officers' Strategic Committee using to spark national operational readiness discussions.
- Queensland and New South Wales governments use of *Tropical Cyclone Alfred rapid response* project findings in building damage and community experiences through social media.
- Participatory, inclusive model for trust building between Indigenous communities and emergency service agencies enshrined in *Statement of mutual understanding and intent* from the *Connecting Indigenous people and the emergency management sector* project following 2023 flooding in the Burke Shire (Queensland).
- Community-led place-based research revitalising and strengthening cultural and intergenerational knowledge exchange in Brungle-Tumit (New South Wales) following the 2019–20 Black Summer bushfires through the *Healing Country through Wolgalu/Wiradjuri-led land management* project.
- Ongoing strengthening of CSIRO's Spark national fire spread model with *Fire ember transport* research findings improving timely parameterisation to deliver next generation fire simulation that underpins decision support for community preparedness and evacuation.
- *Recovery Capitals* project's *ReCaps resources* referenced by the Australian Red Cross and state and local governments in Australia and New Zealand supporting communities to recover from disasters.
- National and state interest in the research outcomes from *Community experiences of the 2022-23 floods in Victoria, South Australia and southwest New South Wales* leading to expansion of scope to include new case studies.
- Western Australian Government rollout of the *UNHaRMED framework* across departments through a two-and-a-half-year, \$2.22 million project co-developing case studies, training of government staff and web tools for policy support.
- Evidence-based guide developed by AFAC to support emergency managers to clearly justify decisions made under pressure from the *Enhancing decision-making in emergency management* project.

Capability

The Centre continues to build the capability of the current and future emergency management and disaster resilience workforce.

Achievements

- Delivered Natural Hazards Research Forum 2025 with more than 600 registrations from 200-plus organisations, a more than 100% increase on the previous year.
- Supported 83 postgraduate students, 46 Postgraduate Research Scholarships, 24 Postgraduate Research Associate Students and 13 PhD completions.
- Awarded eight Early Career Researcher (ECR) development fellowships.
- Established Early and Mid-Career Academic and Practitioners (EMCAP) Network with 119 members engaging in learning, networking and mentoring opportunities to be the next generation of natural hazards leaders.
- Delivered First Nations Scholarship Program with two university providers contracted.
- Delivered 2024 Disaster Challenge with 18 submissions from across Australia, detailing solutions to build and sustain trust for the collective and coordinated actions fundamental to reducing the risks and impacts of disasters. An AI chatbot delivering postcode-specific disaster information developed by postgraduate psychology students from James Cook University won.
- Launched 2025 Disaster Challenge with 18 submissions detailing solutions to address infrastructure challenges that effect disaster risk reduction in Australia.
- Delivered first Executive Innovation and Foresight Masterclass.
- Presented inaugural Natural Hazards Research Australia research awards in June 2025.
- Completed first industry internship with expansion of program in second half of 2025.

**SUPPORTED
46 POSTGRAD
SCHOLARSHIPS
24 POSTGRAD
ASSOCIATE STUDENTS
13 PHD COMPLETIONS**

Research informed strategic advice

Throughout the year the Centre provided strategic evidence-informed advice to all levels of government over the year.

Achievements

- Hazardous Webinar series showcased lessons from national and global disasters; resilience of critical infrastructure; awareness, education and communication for compound disasters; community perceptions and understanding of bushfire maps; and enhancing decision making in emergency management. The series attracted 5,667 registrations from 774 organisations.
- Research Industry Partner for AFAC24 and AFAC25 annual conferences and supporter of numerous sector conferences and events including the National Indigenous Disaster Resilience (NIDR) Gathering 2024 and Australian Disaster Resilience Conference 2024.
- Informed National Disaster Risk Profile and National Climate Change Risk Assessment.
- National Urban Policy for Australia submission and expert feedback.
- Research-informed media comment and coverage.

**HAZARDOUS
WEBINAR
SHOWCASE**
5,667 REGISTRATIONS
774 ORGANISATIONS

- Co-hosted *Nature positive disaster risk reduction solutions* roundtable for national leaders in partnership with Suncorp. Keynote address by Senator the Hon Jenny McAllister, then Federal Minister for Emergency Management and subsequent discussion paper launch received coverage on *ABC Radio* and the *Insurance News*.
- Facilitated *Be Ahead of Ready* thought leadership initiative discussions and co-hosted workshops in Queensland, the Northern Territory, New South Wales and Victoria.

Key 2025-26 upcoming activities

- Additional research projects with a clear transition path to utilisation.
- Investment in new research projects across two funding rounds.
- Mid-term evaluation and review of the Centre's strategic plan and 10-year research strategy.
- Continued investment in building future capability via education and training programs
- 2025 Disaster Challenge focused on infrastructure.
- Natural Hazards Research Forum 2026.

Strategic alignment

Australia is a land of natural hazards. Flood, bushfire, cyclone, storm, earthquake, tsunami, heatwaves and other hazards have always been a feature of our landscape. For tens of thousands of years, First Nations peoples have understood these as a natural and inevitable part of life on this continent and today, learning how to live with and minimise natural hazards' negative impacts is an essential part of life.

In recent years, the cumulative impacts of compounding natural hazards have become increasingly pronounced. Several Australian communities—many still in the early stages of recovery from severe bushfires or successive flooding events—have faced multiple, intersecting disasters. These experiences underscore the urgent need for integrated risk reduction approaches that account for the escalating frequency, severity, and complexity of natural hazards.

The financial costs of natural hazards continue to grow, placing greater pressures on the ongoing resilience and sustainability of communities.

The 2020 Royal Commission into National Natural Disaster Arrangements recognised that due to our changing climate we will collectively face more frequent and intense natural disasters in the future, while being as prepared as possible for less frequent, but profoundly catastrophic natural events.

Based on an environmental scan of current risk, capability and policy trends (including themes from recent natural hazards and inquiries) and feedback from Centre Participants and other subject matter experts, the Centre continues to update key research and capability areas and themes, documented in ongoing Biennial Research Plans. As the 2024–26 Biennial Research Plan approaches its conclusion, a new research framework has been drafted and formally approved. This signifies the beginning of the next phase in our strategic research journey, ensuring continuity and innovation in addressing emerging challenges.

In July 2021, the Centre was established with the guiding vision of working with partners to make communities safer, more resilient and sustainable in the face of natural hazards. Four years into executing this vision, the Centre continues to work collaboratively across the sector to define end-users' research needs.

In 2025 and beyond, the achievement of this vision remains multi-faceted, as articulated in the following strategic documents:

Strategic Plan 2021–2031



The Centre developed the Strategic Plan 2021–2031 as the overarching corporate vision and strategy. This is a big-picture document that outlines the vision, mission, partners, principles, plans and strategic themes of the Centre. This plan identifies five key strategic themes for the Centre to focus on over the 10-year funding period:

- Governance and management
- Partnerships
- Research and implementation
- Capability
- Research-informed advice

National research priorities



The National research priorities for disaster risk reduction and community resilience to the impacts of natural hazards assesses Australia's natural hazards research priorities, building on what was already known about disaster risk reduction in 2021 and identifying any knowledge gaps. Co-developed with key stakeholders from government, emergency management agencies, private sector organisations and not-for-profit companies, these research priorities inform research that delivers valuable outcomes over a decade.

10-Year Research Strategy 2022



The 10-Year Research Strategy details the themes and factors influencing the Centre's research focus. It informs decisions about which kinds of research projects are funded in the short, medium and long-term. As a strategic document, it highlights what the Centre will achieve over 10 years rather than what research will be undertaken.

End-user driven research

The Centre engages with its Participants to ensure the research program is driven by the needs of government, emergency services, industry and the community. All projects have identified translation and implementation pathways co-developed and agreed to by relevant end-users before the start of each project.

Biennial Research Plan 2024–26



The Biennial Research Plans outline the Centre’s research activities and how they will deliver the outcomes described in the Centre’s 10-Year Research Strategy 2022 and Strategic Plan 2021–2031. The current Biennial Research Plan 2024–26 provides an overarching strategic guide for the Centre’s research activities and describe the Centre’s research focus areas.

These plans are updated annually. The Biennial Research Plan 2025–27 is approved and will guide research priorities for the coming year.

The Plan outlines key focus and capability areas reflecting the shifting drivers and priorities of the sector as it responds to the unfolding and changing risks of natural hazards. The focus areas are illustrated in Figure 5.

Research Data Management Framework



The Centre maintains a Research Data Management Framework to ensure that the Centre can support and contribute to accessible national data and knowledge collections. Ultimately, all funded or affiliated research projects will be expected to contribute to accessible, sustainable national research or operational data collections with ongoing agreed access, visibility to others, custodianship, governance and standardised data dictionaries.

This Framework focuses on the creation, curation and accessibility of research data sets and how the Centre will achieve this.

Communications Strategy



The Centre has a clear mandate for knowledge translation, to make research discoverable, accessible and relevant to end-users to motivate tangible action. In June 2025, the Centre’s Board-endorsed Communication Strategy provides a clear benefit statement and value. It aims to enhance capability for communicating research, amplify the Centre’s profile nationally and internationally, and improve research translation to showcase utilisation.

Partnerships and Engagement Framework

Following the identification of the need for the Centre’s current participation model to be more flexible and diverse to formally engage a broader range of sectors and end-users, the Partnerships and Engagement Framework was endorsed by the Board in October 2024, with initial planning underway to guide the communication and socialisation of the framework.

Governance and management

Staff

Twenty-four staff are located across the Centre’s New South Wales, Queensland, Victorian and Western Australian node offices (Figure 1). The Centre’s new Science and Innovation team and associated positions started in late 2024 to enhance data management, research evaluation and education and training.

Six new roles within the Centre were created this financial year to support contracting, project support, monitoring and evaluation, and business improvement processes. the new positions included in-house Legal Counsel, Senior Research Services Project Officer, Senior Research Project Officer Education and Training, Senior Research Officer Research and Evaluation, Digital and Data Manager, and Business Improvement Manager.

Finance and business support continue to be provided through AFAC.

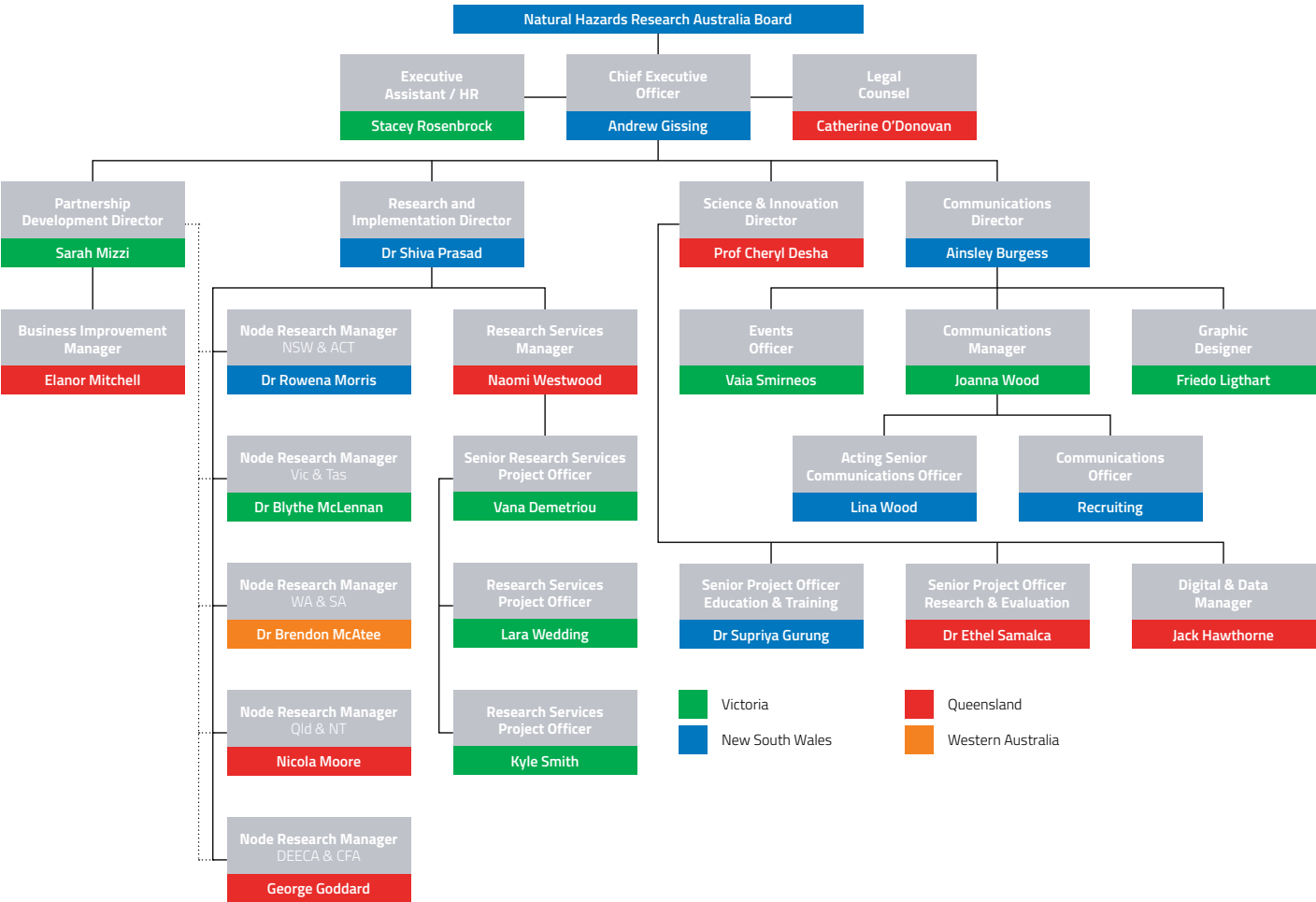


Figure 1: Centre’s organisational structures

Board

During the reporting period, the Board's eight independent members met five times: 31 July 2024; 30 October 2024; 5 February 2025; 29 April 2025; and 23 June 2025.

The Board's focus included:

- maturing the Centre's research portfolio to meet the needs of Participants
- monitoring the delivery of key strategic objectives of the Centre and establishing best practice governance process
- supporting key initiatives to encourage natural hazards research nationally.

At the Annual General Meeting on 22 November 2024, Iain MacKenzie (Chair) and Directors Adj Prof Tim Moltmann and Kate Vinot were reappointed for further three-year terms. The meeting also approved the Centre's annual accounts.



Iain MacKenzie (Chair)



Adj Prof Tim Moltmann



Dr Greg Ayers



Doug Smith



Oliver Costello



Kate Vinot



Dominique Hogan-Doran SC



Sandra Whight

Board committees, panels and working groups

Research and Implementation Committee

The Research and Implementation Committee provides the Board with strategic advice on the overall development of the Centre’s research and implementation programs, consistent with the Commonwealth Funding Agreement. The committee met four times during the reporting period.

The Committee’s membership comprises Board directors Dr Greg Ayers (Chair), Adj Proj Tim Moltmann and Kate Vinot with the following co-opted members:

- **Mal Cronstedt**, Independent Member
- **Rebecca Quinn**, Manager, Environmental Science and Research Partnerships, South Australian Department of Environment and Water
- **Rob Webb**, CEO, AFAC
- **Melissa Pexton**, Deputy Commissioner Strategy and Emergency Management, Department of Fire and Emergency Services (DFES)
- **Andrew Minack**, First Assistant Coordinator-General, NEMA

Risk, Audit and Compliance Committee

The Risk, Audit and Compliance Committee provides the Centre’s Board with assurance that there are adequate governance and processes in place regarding matters of risk, audit and compliance. The committee met six times during the reporting period.

The Committee’s membership comprises Board directors Adj Prof Tim Moltmann (Chair), Oliver Costello, Dominique Hogan-Doran SC and Kate Vinot.

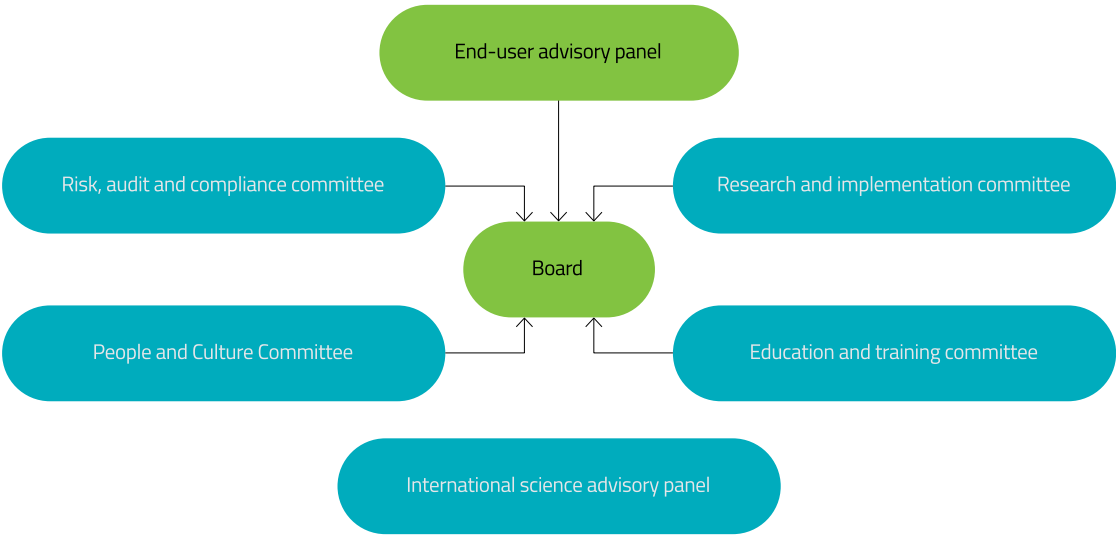


Figure 2: Board committee and panel structure

Education and Training Committee

The Education and Training Committee provides the Board with advice on the strategic directions that the Centre should take to support and promote training and education to improve resilience to natural hazards. The committee met once during the reporting period.

The Committee's membership comprises Board directors Sandra Whight (Chair), Oliver Costello and Doug Smith and the following co-opted members:

- **Clare Russell**, Director Research Partnerships and Initiatives, RMIT University
- **Paul Seger**, Deputy Chief Officer, SA Country Fire Service (CFS)
- **Bhiamie Williamson**, Research Fellow, Monash University
- **Dr Greg Drummond**, Assistant Commissioner, Fire and Rescue NSW

People and Culture Committee

The People and Culture Committee oversees strategies to manage and enhance the Centre's workforce, including attraction, retention, remuneration and conditions; performance management; development and succession-planning of staff; equity and diversity; workplace relations; staff, health, safety and wellbeing and organisational culture. The People and Culture Committee met five times during the reporting period.

The Committee's membership comprises Board directors Kate Vinot (Chair), Oliver Costello and Sandra Whight.

End-User Advisory Panel

The End-User Advisory Panel provides the Board with strategic advice on the development of the Centre's research, education and utilisation programs, consistent with the Commonwealth Funding Agreement. The panel met once during the reporting period to provide feedback on the Centre's draft 2025-27 Biennial Research Plan.

The panel is chaired by the Chair of the Board and consists of representatives of all Centre Participants.

International Research Advisory Panel

The International Research Advisory Panel (the Panel) ensures the quality and scientific rigour of the Centre's research program and research outputs relevant to research utilisation and training activities at a global lens, as well as strengthening the research linkages internationally. The Panel met twice during the reporting period.

The panel is chaired by the Science and Innovation Director and consists of the following members:

- **Dr Amy Cardinal Christianson**, Indigenous Leadership Initiative, Canada
- **Dr Mark Finney**, The United States (US) Forest Service, US Department of Agriculture, US
- **Dr Sarah McCaffrey**, The US Forest Service, US Department of Agriculture, US
- **A/Prof Susanna Jenkins**, Nanyang Technological University, Singapore
- **Prof Jessica Lamond**, University of the West of England, United Kingdom
- **Dr Richard Smith**, Resilience Platform, New Zealand
- **Prof Thomas Wilson**, National Emergency Management Agency, New Zealand

Centre policies and processes

The Centre holds and manages substantial financial and intellectual resources on behalf of Participants. Strong governance and management processes are in place to ensure confidence in the use of those resources.

Throughout the year, the Centre has enhanced its governance and management by developing and reviewing policies, and processes including:

- Equal opportunity
- Communications and Media Policy
- Conflict of Interest Policy
- Corporate Credit Card Policy
- Financial Delegations and Authority
- Hybrid Working Policy
- Receipts of Gifts and Benefits Policy
- Investment Policy
- Long Service Leave Policy
- Leave Policy
- Long Service Leave Policy
- Social Media Policy
- Whistleblower Policy
- Parental Leave Policy
- Artificial Intelligence Use Policy

Employment

Twenty (20) new research roles were created in research organisations. And five new roles were established within the Centre to enhance program management including a new Legal Counsel, Data Manager and Business Improvement Manager, Senior Project Officer Education & Training and Senior Project Officer Research and Evaluation.



Data management

During the reporting period, a review of the Centre's Data Management Framework (DMF) commenced to clarify and improve:

- data governance
- data quality management
- metadata management
- data storage and retention
- data sharing and interoperability.

With global not-for-profit Data Management Association's (DAMA) Data Management Body of Knowledge (DMBOK), AFAC's Data Governance Framework and Australian Research Data Commons's (ADRC) Research Data Management Framework as key references.

Key capability areas of data management and interoperability will be strengthened through the Data Catalogue project aiming to:

- Act as a waypoint for research end-users, improving findability, accessibility, interoperability and reuse (FAIR) of digital and data research outputs.
- Catalogue Research Data Assets from the current and previous Centre publications with a view of a sector-wide scope of publishers in the future.
- Develop a cataloguing vocabulary, ontology and schema for sector-wide application, following international references such as the Semantic Interoperability Centre Europe (SEMIC) and World Wide Web Consortium's (W3C) Data Catalog vocabulary.

Consultation about the development and possible implementation of a chatbot or Retrieval Augmented Generation (RAG) service is in train through the Chatbot feasibility study. Aiming to assess the potential use cases and opportunities for a chatbot, the study explores the risks and costs associated with different service implementations.

Diversity

The Centre's diversity profile across staff and researchers is summarised in Table 2, considering gender and location..

The Centre comprises individuals from a broad range of culturally and linguistically diverse backgrounds, reflecting our commitment to inclusivity and global perspectives.

Cultures include:

- Aboriginal (Euahlayi), Gamilaroi (Aboriginal), Aboriginal – Wiradjuri/Wolgalu, Anglo Celtic, Anglosaxon, Australian, British, 2nd generation Czech, Dutch, English, Persian, European/Australian, Euro-Canadian, French, Indian, Iranian, Pakeha (European settler, New Zealand), Persian, Polish/American

Languages spoken include:

- Dutch, English, Euahlayi, Farsi, French, German, Hindi, Kannada (Indian language), Persian, Spanish

Table 2: Gender and diversity

Diversity measure	Research leads	Board	Staff
Gender			
Male	25	5	7
Female	33	3	17
Aboriginal or Torres Strait Islander	3	1	
Geographic-residential			
Victoria	15	2	9
New South Wales	7	2	6
Queensland	7	2	8
Tasmania	3	2	
South Australia	2		
Northern Territory	1		
Australian Capital Territory	1		
Western Australia			1

Commitment to reconciliation

The Centre's Reflect Reconciliation Action (RAP) plan concluded in December 2023 with 56 of the 63 deliverables complete. The RAP Working Group met to reflect on the considerable achievements over the course of the RAP and developed a Pathways Working Group proposal to help inform the development of the Centre's First Nations Strategy.

The Centre continued to support its commitment to reconciliation, concluding many outstanding deliverables from the Reflect RAP and supporting appropriate engagement with First Nations rights-holders in natural hazards research and decision-making. Progress during this reporting period includes:

- First contract executed protecting ICIP of First Nations rights-holders involved in Centre research. This contract will be used for all research to reduce barriers First Nations' inclusion in and leadership of Centre research.
- Two universities contracted to deliver the Centre's First Nations Research Scholarship program.
- Expressions of Interest conducted for First Nation Leaders to form the Pathways Working Group, with submissions received from around Australia. Inaugural meeting was held on Nyangbul Bundjalung Country in South Ballina with the group meeting regularly.
- First Nations' engagement digital resources published to support appropriate and respectful collaboration with First Nations rights-holders, principles and protocols for cultural land management governance and research and other First Nations-focused research outcomes. This collection and select resources were accessed 583 times and downloaded 156 times during the reporting period.
- NAIDOC Week webinar co-hosted with AIDR and NIDR. Centre Science and Innovation Director Prof Cheryl Desha joined the panel of speakers and the rich discussion provided useful and actionable ways to ensure more respectful inclusion and engagement with First Nations rights-holders.
- Supported 2024 NIDR Gathering in Lismore, funding the attendance of Indigenous researchers and keynote speaker, Dr Amy Cardinal Christianson, Indigenous Leadership Initiative (Canada) and member of the Centre's International Research Advisory Panel. The event well attended by First Nations groups, non-governmental organisations and government agencies and went a long way to improve the sector's understanding of First Nations communities' experiences of disaster events and management, as well as the leadership role First Nations and community groups play around resilience. Dr Christianson's keynote demonstrated the similarities between the experience of Indigenous communities in Canada and Australia, as well as what is possible when Indigenous leadership is recognised and supported.
- *In discussion: Dr Amy Cardinal Christianson and Joe Gilchrist* hosted at the Centre's Queensland Node Office and facilitated by Board member Oliver Costello. Strongly attended by Queensland emergency and land management agencies representatives, the discussion focused on enhancing sector understanding of Indigenous experiences of evacuation and participation in emergency management, and how Indigenous knowledge can contribute to building resilience.
- Second in-person meeting of the First Nations Knowledge Network held on Kurna Country ahead of NHRF25. A space for researchers and end-users working on First Nations-focused research, the Network helps connection and knowledge sharing about how to conduct and translate research for the empowerment, inclusion and self-determination of First Nations communities. Distinguished Prof of Disaster Risk Reduction at Massey University and Director of Te Toi Whakaruruhau o Aotearoa, New Zealand's Māori Disaster Research Centre, Christine Kenney and Kataya Barrett, First Nations Strategy development lead with NSW Bushfire and Natural Hazards Research Centre joined the meeting. Rich discussion took place about the barriers and enablers to the uptake of research emerging from First Nations-focused projects and examples of how to provide benefit to participants through the research process.
- NHRF25 sought to provide a platform for more First Nations voices with keynote addresses from Oliver Costello, Board Director and Director of Jagun Alliance, Tianhi Adamson, 2024 South Australian Young Person of the Year and National Aboriginal and Torres Strait Islander Engagement Manager at Bush Heritage Australia and Distinguished Professor Christine Kenney. David Windsor, Cultural Fire and Partnerships Coordinator for DFES' Bushfire Centre of Excellence and Centre Pathways Working Group Member shared reflections in the Workforce-leadership connections stream.

First Nations research dissemination

The Centre is committed to creating opportunities to understand the specific needs of First Nations peoples and their priorities in managing natural hazards and disasters.

The Australian Journal of Emergency Management (AJEM) is a well-known resource for policy and decision makers seeking timely and relevant disaster risk reduction and resilience information. The June 2025 Special First Nations' Edition highlighted First Nations disaster research, led by the Centre.

Indigenous Evacuation Planning article references the *Foundations in Indigenous disaster resilience* project, with AIDR's Planning evacuations with Indigenous Communities handbook providing practical guidance for agencies and communities in planning and conducting culturally sensitive, trauma-informed and healing-centred evacuations.

Principles and protocols for cultural land management governance and research in Australia references key outputs from the *Cultural land management research and governance in south-east Australia* project. Practical guidance about how researchers and land managers can appropriately and respectfully engage with First Nations communities to support empowerment and determination and is part of the resources the Centre supplies to its researchers.

First Nations research

The Centre continued to support diverse First Nations-focused research led or co-led by First Nations researchers. Projects currently in progress include:

- *Cultural land management research and governance in south-east Australia* led by Jagun Alliance and Deakin University.
- *Operationalising Aboriginal land and sea management* led by NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW).
- *Phase 1 Healing Country through Wolgalu/Wiradjuri-led land management* led by Brungle-Tumut Cultural Natural Resource Managers and the University of Wollongong.
- *Cross-cultural relationships in natural resource management: understanding the nature and experiences of partnership and collaboration* postgraduate research at Deakin University.
- *Foundations in Indigenous disaster resilience* led by NIDR at Monash University.
- *Colonial load and cultural conflict: understanding the experiences of First Nations staff and volunteers within the Australian emergency, land management and resilience sectors* led by NIDR at Monash University.
- *Phase 2 Healing Country through Wolgalu/Wiradjuri-led land management* proposed by NSW DCCEEW.
- *First Nations women, cultural fire knowledge, wellbeing and memory* led by NIDR at Monash University.



Partnerships

Centre Participants

Addressing end-user needs from the Centre's broad knowledge network is at the heart of the research program and other research-informed activities. As the core research program matures, so do opportunities for research insights to support Participants to better plan and develop capability to meet the challenges and uncertainties of tomorrow.

The Participant network continues to grow with members drawn from all Australian states and territories, federal, state governments and other organisations with a stake in protecting Australian communities.

The Participant network currently comprises 32 formal Participants with the Fire Protection Association of Australia recently formalising its collaboration through a Participant Agreement. The Centre continues its collaboration with the Inspector General for Emergency Management in Victoria via a Memorandum of Understanding.

The Centre coordinates an extensive national knowledge network, supported by strong relationships and engagement with key end user stakeholders who represent a variety of sectors beyond the Centre's formal Participant base.





Figure 3: Centre signed Participants as at 30 June 2025

Photo: Signing Ceremony with FPAA

The Centre engages and collaborates with these stakeholders to identify opportunities to engage on whole-of-Centre activities or on specific research projects. In the last year, engagement and collaboration has occurred with the following end user organisations:

- ACT Government – Security and Emergency Management division
- Australian Reinsurance Pool for Cyclones
- Aurecon
- AusNet
- Australian Forest Products Association
- City of Hobart
- Conservation Ecology Centre – Cape Otway
- Cooperative Research Australia (National)
- Commonwealth Chief Scientist
- Council of Ambulance Authorities
- Council of Small Business Organisations Australia
- Department of Housing, Local Government, Planning and Public Works (Queensland)
- Department of Premier and Cabinet (South Australia)
- Department of Prime Minister and Cabinet Cyclone Recovery Unit (New Zealand)
- Emergency Recovery Victoria
- Emergency Media and Public Affairs Australia
- Enduring Advantage Consulting
- Energex
- Gender and Disaster Australia
- Geological and Nuclear Science New Zealand
- Insurance Council of Australia
- Indigenous Desert Alliance
- Inspector-General for Emergency Management Queensland
- Inspector-General for Emergency Management Victoria
- Local Government Association Queensland
- Lot Fourteen
- Moreton Bay Regional Council
- Moodys (Risk Management Solutions)
- North Australian Indigenous Land and Sea Management Alliance Ltd
- Natural Resource Management Regions Australia
- New South Wales Bushfire and Natural Hazards Research Centre
- National Emergency Management Agency (New Zealand)
- Optus
- Public Skills Australia
- Queensland Chief Scientist
- Queensland Inspector-General for Emergency Management
- Queensland Police Service
- Queensland Reconstruction Authority
- Royal Automotive Club of Tasmania
- Regional Australia Institute
- Resilient Building Council
- Risk Frontiers
- South Australia Futures Agency
- Sentientco
- Sustainable Built Environment National Research Centre
- Suncorp
- WA Local Government Association (WALGA)
- WMA Water
- Yarra Ranges Council

The Centre would also like to acknowledge the contributions of local governments across Queensland, New South Wales, Victoria, Tasmania and South Australia who provided insights and expertise to the development and delivery of the Centre's post-event research.

Engagement with federal departments, agencies and other entities

The breadth of research insights delivered under the core program has provided many opportunities for improved operations, strategies and policy making to drive safer, more resilient and sustainable Australian communities and engagement across all levels of government is critical to achieving this mandate.

Over the reporting period, the Centre continued to engage with representatives of Australian Government departments and agencies, including:

- Australian Government Department of Industry, Science, Energy and Resources
- Australian Research Data Commons
- Australian Reinsurance Pool for Cyclones
- Bureau of Meteorology (including the Australian Climate Service)
- Geoscience Australia
- NEMA
- Department of Climate Change, Energy, the Environment and Water
- Department of Home Affairs
- Australian Reinsurance Pool Corporation
- Commonwealth Scientific and Industrial Research Organisation
- Australian Strategic Policy Institute.

During the past year, the Centre briefed the following Members of Parliament on upcoming Centre activities and highlighted key achievements in partnering with agencies across the country to use research insights to enable safer, more resilient and sustainable communities:

- Former Assistant Minister for Climate Change and Energy and Minister for Emergency Management, the Hon Jenny McAllister
- Minister for Emergency Management, the Hon Kristy McBain
- Assistant Minister for Emergency Management, the Hon Josh Wilson
- NSW Minister for Recovery, the Hon Janelle Saffin.

SA Minister for Emergency Services, the Hon Emily Bourke delivered the NHRF25 opening address in Adelaide from 18-20 June 2025.

Daniel Mullino MP, Chair of the House of Economics attended the *Nature Positive Disaster Risk Reduction* roundtable event the Centre held in conjunction with Suncorp.

In addition to the agencies listed, the Centre attended and presented a strategic update on Centre progress and *Be Ahead of Ready* thought leadership initiative at the State Emergency Management Committee (SEMC) meetings in Victoria, New South Wales and Western Australia. The Centre also participated in an Australia-New Zealand Emergency Management Committee meeting. Further engagement is planned with the remaining SEMC groups across Australia.

Research providers

Research providers are essential in the Centre's ability to deliver high-quality research. The Centre's network consists of 57 research providers, including tertiary institutions, consulting firms and government agencies at all levels, all contributing valuable research across states, territories and sectors.

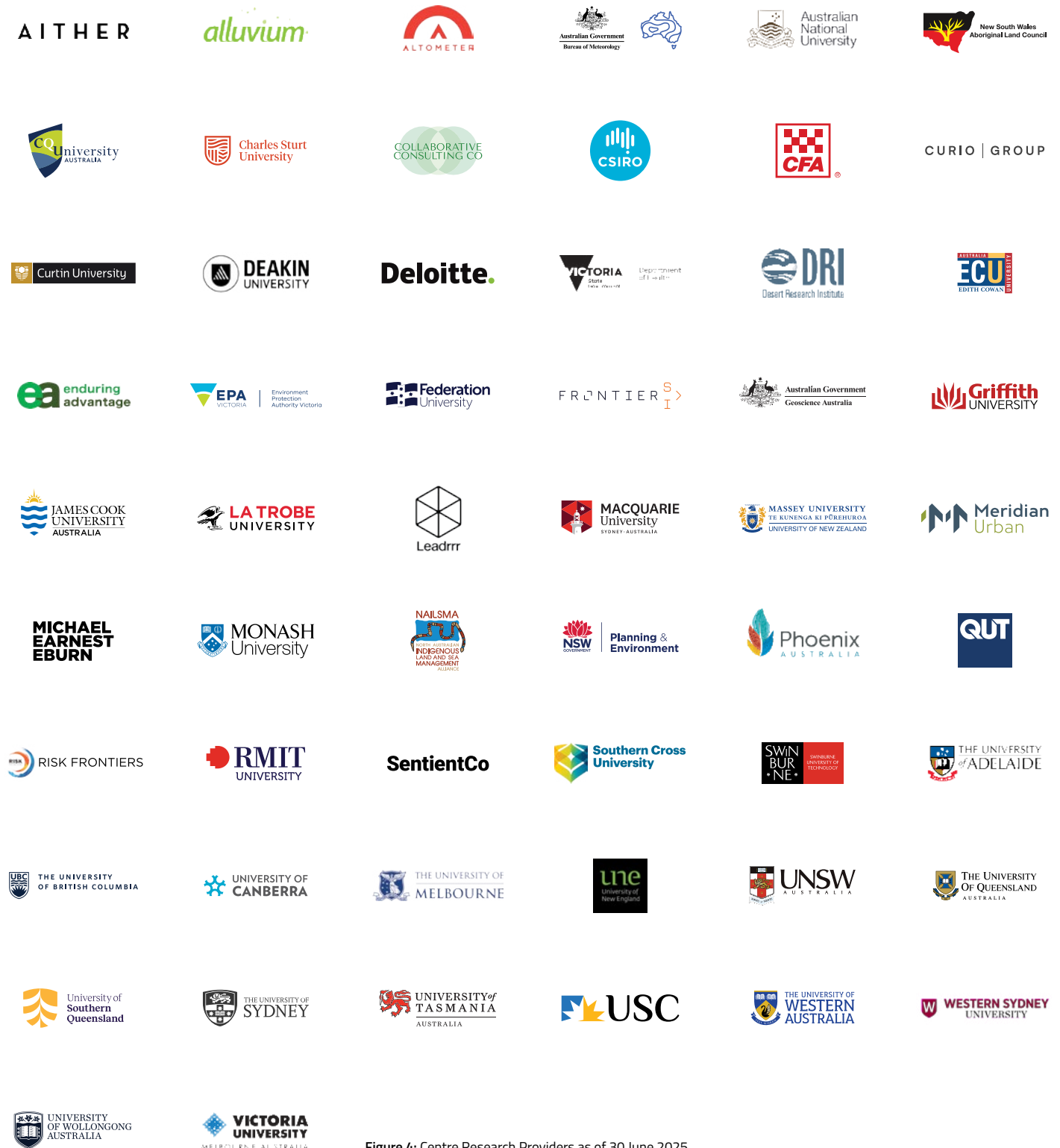


Figure 4: Centre Research Providers as of 30 June 2025

International engagement

The Centre continues to share knowledge and experience through international collaboration and exchange. In the past 12 months, the Centre engaged with:

- Fire and Emergency New Zealand
- FirEURisk
- FP Innovations Canada
- GNS Science (New Zealand)
- International Association of Wildland Fire
- Nanyang Technological University
- National Emergency Management Agency (New Zealand)
- Natural Resources Canada
- North Carolina State University
- Northern Forestry Centre (Canada)
- The Treasury New Zealand
- United Nations Office for Disaster Risk Reduction
- University of the West of England
- United States Department of Agriculture Forest Service
- United States Department of Homeland Security

Project-based international engagement

Several of the Centre's research projects have engaged with international experts and organisations over the reporting period:

- The *Enhancing Decision-Making in Emergency Management* project team collaborated with colleagues in the United Kingdom and New Zealand to build a robust evidence base for decision-making practices. This work complemented their Australia–New Zealand research, which included 108 surveys and 41 interviews conducted in partnership with UK-based colleagues, helping to extend the impact of their findings into UK emergency management agencies.
- *Awareness, education and communication for compound natural hazards* lead researchers from Deakin University and University of Tasmania delivered two presentations at the Media Asia Conference in Japan, 15–19 October 2024, titled *Working with disaster-affected communities to build better communication for compound natural hazards and exploring local media ecologies in communicating natural disaster*.
- *Flash flooding case studies to improve predictions and the communication of uncertainty* lead researcher from the Bureau of Meteorology presented at the World Meteorological Organisation's HIWeather Conference in Germany, 9–13 September 2024, showcasing the cost-effective rapid appraisal case study method used within the project.
- *Why fly – How do we know that aerial firefighting operations are effective and efficient?* Project researchers hosted online discussion with Centre's Postgraduate Scholar graduate Dr Heather Simpson from the Canadian Interagency Forest Fire Centre and worked with international colleagues to produce article for the International Association of Wildland Fire's *Wildfire* magazine.



Additional international engagements over the reporting period included:

- Partner in FirEURisk, a European consortium of 38 international partners integrating a multi-perspective strategy to enhance understanding of extreme wildfires.
- Supported Dr Amy Cardinal Christianson's travel from Canada to attend and present at the NIDR Gathering 2024 (24–26 September 2024) in the Northern Rivers, NSW. The Centre also supported travel to attend the event for two Centre researchers working on a First Nations research topic, and two Centre staff involved in the First Nations Pathways activities.
- Hosted Dr Christianson to run a workshop with Canadian Elder Joe Gilchrist for stakeholders in Brisbane following the NIDR Gathering, 3 October 2024. Workshop participants from government and industry reflected on the importance of fire in their landscapes and the effects of fire, or lack of fire, in changing the ecosystem.
- CEO and Science and Innovation Director met with the US Department of Homeland Security's Office of Science and Engineering to discuss collaboration opportunities.
- Participated in an online presentation to the Wildland Fire Canada Conference: Wildfire Community Impact Research Workshop on post-event research, 29 October 2024.
- Hosted webinar about research lessons from recent Canadian wildfire seasons, 14 November 2024. Panel included Dr Amy Cardinal Christianson (Indigenous Leadership Initiative, Canada), Dr Kelsey Winter (FPInnovations Canada), Sandra Whight (AFAC) and Andrew Gissing (the Centre).
- Centre Director Dominique Hogan-Doran SC attended the 2024 United Nations Climate Change Conference of the Parties COP29 in Baku, Azerbaijan (11–22 November 2024).
- CEO and Science and Innovation Director met with key New Zealand natural hazards research stakeholders (8–10 December 2024), coordinated by the Natural Hazards Research Platform and hosted by GNS Science. Organisations involved included National Emergency Management Agency (New Zealand), The Treasury New Zealand, Fire and Emergency New Zealand, Department of Prime Minister and Cabinet Cyclone Recovery Unit (New Zealand) and New Zealand's local disaster managers' Community of Practice. Prof Gavin Smith also attended and presented on Cyclone Helene and North Carolina's recovery challenges to government and industry colleagues.
- The Centre hosted two webinars to explore lessons for Australia arising from the Los Angeles fire disaster. These webinars featured Kelly Martin (Las Air Fire Consulting) and Dr Faraz Hedayati (Insurance Institute for Business and Home Safety)
- The Science and Innovation Director presented on the thought leadership paper 'Nature Based Disaster Risk Reduction Solutions' to the European Union's Naturance Webstival.
- An international panel was facilitated at the 2025 Natural Hazards Research Forum, reflecting on the topic, 'Infrastructure and society – learning local and global', with members of the Centre's International Research Advisory Panel (Dr Richard Smith and A/Prof Susanna Jenkins) joined by Distinguished Professor Christine Kenney.
- The CEO participated in a New Zealand Government evaluation panel on the New Zealand Natural Hazards Research Platform.

Assisted Relocation Community of Practice

The Centre has led the establishment of the Assisted Relocation Community of Practice consisting of representatives from Australia, New Zealand and the United States. The first meeting of the Community of Practice occurred in March 2025 providing an opportunity for networking and to exchange research and lessons on the topic. The next meeting of the community of practice will occur in early July 2025.

"I was delighted to represent FMA recently at the inaugural meeting of the Assisted Relocation Community of Practice hosted by Natural Hazards Research Australia. This first meeting comprised participants from a wide range of researchers and practitioners involved in assisted relocation policy, practice and research from Australia, the United States and New Zealand."

Sue Ribbons, Floodplain Management Australia



Research and implementation

The Centre remains committed to the ongoing development of its research program in alignment with its established vision and mission. As the program continues to mature, strategic and targeted initiatives are undertaken to ensure that research outputs are practical, applicable, and widely adopted.

The Centre’s research priorities and capabilities form a robust foundation for effective implementation. Ongoing engagement with Participants ensures the program remains relevant, impactful, and responsive to the evolving needs of government, emergency services, industry, and the broader community.

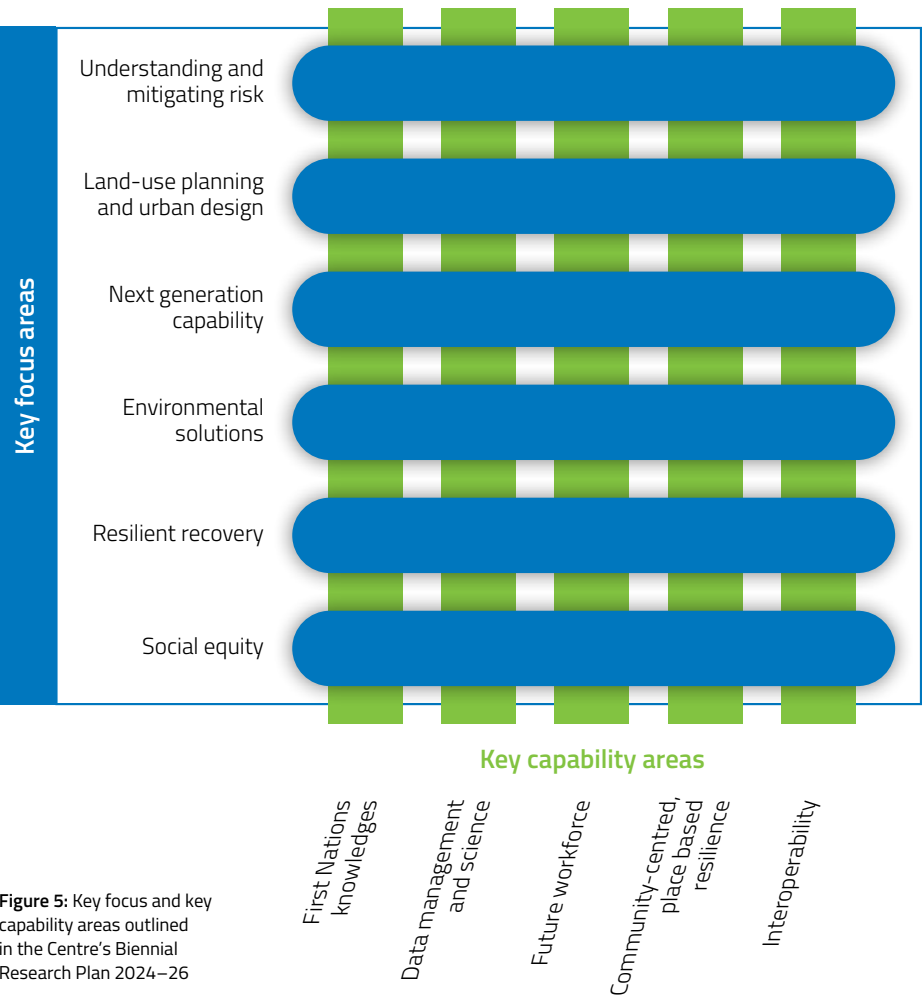


Figure 5: Key focus and key capability areas outlined in the Centre’s Biennial Research Plan 2024–26

Core research program

The Centre's research portfolio is developed and overseen through strong collaboration with Participants, supported by research organisations and leadership from the Centre. The Centre's Board and Research and Implementation Committee regularly review the research portfolio.

The portfolio includes a total of 92 core research projects, detailed in Appendix 2. These projects are at various stages in their lifecycle, with some recently completed and now entering the translation and utilisation phase. To date, 29 projects have been completed, with more expected to conclude within the next six months.

To ensure the portfolio remains relevant and responsive to research needs, two formal investment rounds are held each fiscal year. The most recent round closed March 2025. The Board approved funding for seven of these concepts. The Centre now has had 130 concepts submitted through seven investment rounds in total.

Translation and Implementation Panels

During the reporting period, substantial work took place to map and establish Translation and Implementation Panels (TIPs) to monitor and support the translation of Centre research into practice. This process involved extensive collaboration with key stakeholders to identify thematic areas of focus and ensure TIPs effectively support national priorities, promote impactful research translation and foster collaboration across sectors. The TIPs meet biannually, with their objective being to monitor and support research translation while providing advice on research design at the thematic program level and maximise outcomes and benefits for end-users.

During this reporting period two TIPs were piloted in support of 'Enabling equitable community resilience' and 'Community situational awareness'. Both received positive feedback from Participants and are in the process of developing program logics for their respective programs. The overall learnings that were carefully captured will help iterate the TIPs and program formation for those piloted in the 2025–26 financial year.

Commissioned research portfolios

The Centre continues to coordinate commissioned research portfolios for the Victorian Department of Energy, Environment and Climate Action (DEECA) and CFA. For these portfolios the Centre provides end-to-end support, including research development, coordination and delivery of outputs in partnership with a range of research providers.

There were 16 active projects undertaken for DEECA during this period with a further two in development. These covered ecosystem resilience across Victoria ecological fire groups, including a quantitative review of the program designed to support ecosystem resilience, best practice monitoring and evaluation approaches for bushfire management, native wildlife management, smoke exposure modelling, climate change and planned burn outcomes tracking.

Ten active projects were undertaken for CFA during this period, focusing on bushfire risk reduction effectiveness, roadside burning, upper atmosphere influence on fire behaviours, tanker design, understanding fuel moisture lag in bushfire models and simulators and community engagement in vegetation management.

Other program support

The Centre continues to provide in-kind network engagement and mentor support for research projects that are submitted to other funding sources including the Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC), where they contribute to building safer, more resilient and sustainable communities.

In this reporting period, the Centre supported the scoping and planning process for Dr Hamish Clarke’s ARC Mid-Career Industry Fellowship (IM240100046, University of Melbourne), awarded in 2024. This four-year fellowship focuses on decision support for climate-adapted bushfire risk mitigation and commences in July 2025. The Centre will provide in-kind support for network-related mentoring and logistical support.

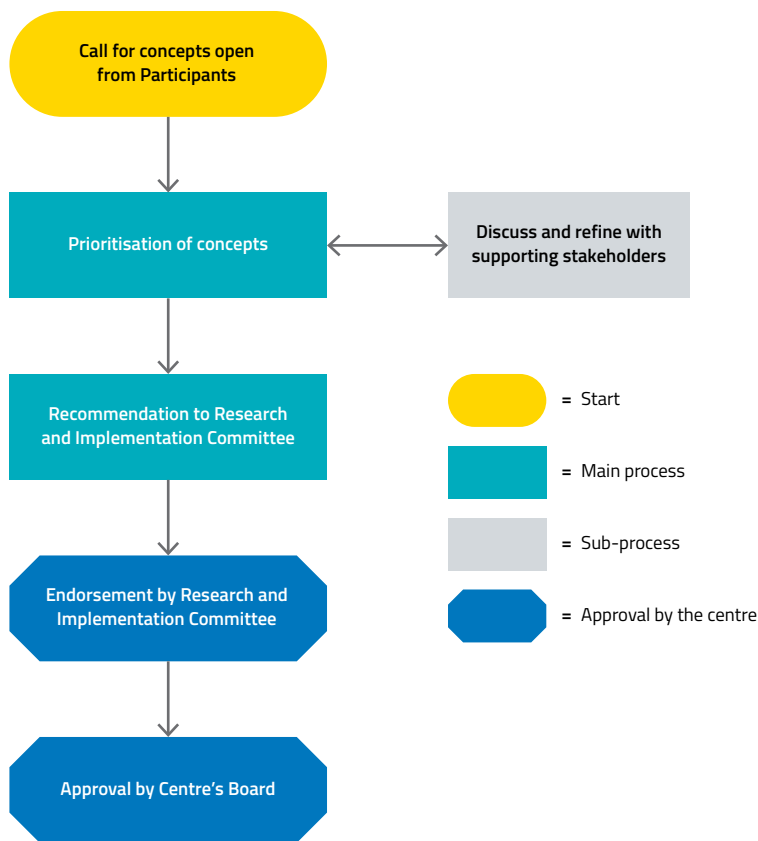


Figure 6: Project proposal process

Project showcase

Research utilisation is central to the Centre's mission, delivering useful, actionable insights that support better decisions to save lives and protect communities. The following projects reflect practical value through early-stage, real-world utilisation, highlighting their relevance.

Long range flood outlook for strategic preparedness

Addressing knowledge gap in flood outlooks, this project considers extended (seven-day-plus) lead times with products tailored specifically to convey flood risk.

Researchers are building a national suite of probabilistic long-range flood outlook and inundation products as proof-of-concept for evaluation and testing by the Bureau of Meteorology.

Utilisation of project outcomes is already occurring with co-designed decision-support tools communicating long-term flood risk. This informs strategic preparedness decisions and assists emergency services to make better decisions to protect people, property and the environment, including resource planning and response and recovery activities during flood. The resources are applicable to other industries and sector, including the transport industry to better plan operations vulnerable to the effects of flooding.

"These projects are being applied by the sector in tailoring preparedness and readiness for a range of time horizons and approaches to communicating and understanding uncertainty for public facing messages and operational decision making."

Steve Muncaster, Principal Advisor, Emergency Management Reform, Victoria State Emergency Service

Tropical Cyclone Alfred: From storm to study, insights into resilience

Rapid disaster response projects were commissioned immediately following Ex-Tropical Cyclone Alfred in March 2025. Researchers reported findings into the structural and inundation effects of the event, including how structures respond to cyclone conditions and the effect of extreme wind and related hazards on buildings and infrastructure.

The findings were put to immediate use in the recovery efforts led by Colonel Justin O'Connor (Retd) as State Recovery Coordinator. Colonel O'Connor thanked the researchers for their '*rapid response*' in obtaining '*just the information I needed, when we needed it most*' during a panel session at the LGAQ Disaster Management Conference in May 2025.

"Given it has been some 35 years since there was a cyclone that directly impacted New South Wales, this research will support our knowledge and understanding into the future."

Deputy Commissioner Daniel Austin, NSW State Emergency Service

**92 TOTAL PROJECTS
29 PROJECTS COMPLETED**

Tropical Cyclone Alfred: Community experiences of cyclone through social media analytics

The second Ex-Tropical Cyclone Alfred rapid disaster response project, researchers explored how communities experienced and responded to the emergency by analysing social media activity before, during and after the event. Drawing on publicly available posts from X, Facebook, and Instagram, the study explores how individuals communicated, sought information, and coped with the natural hazard.

The findings were presented to agencies in Queensland and New South Wales within nine weeks of the emergency with significant interest in the implications of the findings for future communications. This includes:

- leveraging existing many-to-many group structures, such as community Facebook groups, potentially through local ambassadors
- prioritising visual short-form media (e.g., TikTok) to align with the dominant practice of algorithmic audiencing
- using thread-based platforms (e.g., Reddit) to enhance control and predictability when engaging with Australian communities online.

"There's definitely value in this research to inform and enhance our engagement strategies with communities."

Renee Meier, Manager Public Information and Warnings Unit, Queensland Fire Department

Best practice in tracking traumatic exposure

Informing Australian policy regarding tracking exposure to potentially traumatic events (PTE), this project supports ongoing advocacy and strategic intervention for ensuring the long-term psychological safety of first responders.

The evidence-based principles directly reflect industry feedback, expert insight and research integrity to ensure they meet the unique sector context and needs. This co-design is crucial in ensuring implementation, promote evidence-based decision making and establish a foundation for long-term impact. The project helps agencies evaluate and enhance their approach to PTE tracking, embedding mental health protections into operational doctrines and transform the way personnel are supported throughout their careers.

The project's principles were produced were formally signed off as doctrine by AFAC's Mental Health and Wellbeing Group (MHWG) and endorsed by the AFAC Council in April 2025.

Bushfire risk at the rural urban interface

Investigating how plants, farmland, bushland and housing in rural/urban areas impacts bushfire risk, this project deepens knowledge of extreme fire behaviour in areas of Australia with significant population density.

The team's work gained significant interest from governments in Tasmania, other states and territories and internationally. Particularly of interest was fire behaviour and property destruction as seen in the January 2025 LA fires and the use of LiDAR for assessing garden fire risk. With a focus on rapid learning and disaster risk reduction, the project outputs include a garden fire hazard assessment app, house loss analysis, ember attack simulations and fire spread modelling, providing valuable tools for decision makers and the public.

"This work has already had direct application to validate and inform future policy settings in NSW for building in bushfire prone areas and our bushfire prone land mapping. Results from ember modelling and biophysical components are promising and may also influence current and future RFS policy for building in bushfire prone areas."

Melissa O'Halloran, Manager of the Bushfire Risk Planning, NSW Rural Fire Service

Why fly? How do we know that aerial firefighting operations are effective and efficient?

Focusing on optimal use of aircraft in firefighting operations across Australia under varying conditions, this project produced an aerial firefighting strategy analysis detailing when and why different aircraft should be deployed and evaluating their overall effectiveness.

The project's literature review, case studies, aircraft usage profiles and operational purposes and online survey is being used by researchers from the University of Wollongong and CSIRO, who shared their findings at NHRF25 and AFAC25.

"Agencies are keen to see the profile of aircraft use in Australia. The work that the research team are doing will lay the foundations of using our available data for further research."

Deb Sparkes, Aviation Research and Evaluation Manager, AFAC, National Aerial Firefighting Centre

A full list of current research projects is in Appendix 2.

Emergency management volunteering: More than just words

Initiated by the AFAC Volunteer Management Technical Group (VMTG) with the support of the AFAC Workforce Management Group, this project provides practical, tangible actions through the National volunteer sustainability blueprint.

The evidence-based Blueprint immediately provided new pathways for emergency volunteers and informed the *Emergency Management Sustainable Volunteering Blueprint: Strategic Framework* and *Emergency Management Sustainable Volunteering Blueprint: Interim Action Plan*.

VMTG members were active in the research process, shaping the strategic framework and interim action plan through a series of hands-on workshops and follow up consultations. The VMTG committed to taking ownership of the Blueprint, using it as a basis for the group's annual work planning and to champion action to support sustainable emergency management volunteering across the sector.

VMTG-led actions under the interim action plan are already being pursued. Mapping of the training environment for emergency management volunteers is already completed and an action research project to reduce bureaucracy and paperwork for emergency management volunteers is in development.

Next steps to embed the Blueprint in the sector include socialising and securing buy-in to the strategic directions directly with fire and emergency service agency leadership and volunteer association leadership and socialising the Blueprint more widely with emergency management organisations and broader communities as represented by volunteers and policymakers.

Foundations in Indigenous disaster resilience

Developed from ongoing work and engagement with AIDR and NIDR, this project recognises the critical role of Indigenous communities and organisations in disaster resilience. The project is creating an ecosystem of authoritative knowledge and practical guidance to better support Indigenous communities in disaster resilience, and to create lasting change in the structures, institutions and processes of emergency management and disaster resilience.

Engagement with key stakeholders from First Nations communities, peak organisations, disaster resilience organisations and emergency management agencies and early work is already supporting the formation of an Indigenous disaster resilience community of practice. Additional project outputs will include:

- An evidence-based policy framework for guiding Indigenous disaster resilience policy and practice across Australia.
- New evidence and authoritative guidance as a knowledge base regarding Indigenous peoples and disaster resilience.

Research utilisation in AIDR Handbooks

Centre research continues to contribute technical expertise to AIDR’s Handbook Collection outlining national principles and practices for disaster resilience. Handbook development identifies knowledge gaps within the sector followed by input from a network of experts.

Table 4 outlines handbooks informed by Centre research and associated reach.

Table 4: Handbook title Publication date

Handbook title	Publication date	Total downloads (1 July 24 – 30 Jun 25)
Evacuation planning	2023	1094
Planning for animals	2024	780
Communities responding to disasters: Planning for Spontaneous volunteering	2018	300
Community engagement	2021	1,121
Systemic disaster risk	2021	545
Flood emergency planning	2021	561
Public information and warnings	2021	695
Disaster resilience education for young people	2021	296
Incident management	2023	1543
Land use planning for disaster resilient communities	2020	448

Research impact case studies

Future workforce

As the landscape of emergency management continues to evolve, strategic succession planning for the next generation of emergency service workers is critical. Ensuring the long-term safety and resilience of communities in times of crisis requires forward thinking investment in both personnel and capability development. The following research, findings and outcomes support the sector to build and sustain response and decision-making capabilities, prioritising mental health and wellbeing.

Stress testing strategies for an uncertain future

As Australia continues to face more frequent and severe natural hazards, challenging the way emergency response and recovery organisations can be prepared to meet these future needs is critical in ensuring capacity and capability.

[Utilisation of transformative scenarios in a climate changed world](#) walks sector leaders through a series of plausible future scenarios to stress-test their strategies and risk management tools. The translation and application of the [Transformative scenarios for a climate challenged world resources](#) project, the resulting knowledge modules are accessible, facilitation-ready online resources.

The South Australian Fire and Emergency Service Commission (SAFECOM) pilot of the knowledge modules examined the threats, opportunities, strengths and weaknesses outlined in the modules. AFAC's Commissioners and Chief Officers Strategic Committee (CCOSC) also used the knowledge modules to spark national operational readiness discussions.

"Transformative Scenarios resources allow sector members to pause and think beyond the present, planning not only for the immediate future but also for various possibilities. By considering and planning for not only what is likely to happen but what could possibly happen, we can lessen the unknowns."

Daniel Willets, Acting Director of Emergency Management Resilience and Risk Reduction, SAFECOM

Capability to respond to catastrophic disasters

The previous BNHCRC planning and capability requirements for catastrophic and cascading disasters project developed and implemented a process for capability maturity assessment. In 2019–20 this approach was utilised by the NSW Office of Emergency Management on behalf of the NSW State Emergency Management Committee to undertake a state-level capability maturity assessment consistent with the Capability Development Framework for the NSW Emergency Management Sector. In 2025 the NSW State Emergency Management Committee is again utilising the approach developed through the BNHCRC to undertake a state-wide regional level assessment. The project being led by the NSW Premier's Department and NSW Reconstruction Authority will assist the NSW State Emergency Management Committee to understand opportunities to enhance capabilities across people, resources, governance, systems and processes. NHRA staff have assisted in upskilling NSW Government facilitators by running training sessions and providing expert advice.

"The capability maturity assessment methodology provides an evidenced-based approach to identifying capability improvement opportunities to build safe, resilient and sustainable communities."

Danielle Meggos, Director of Capability Development, New South Wales Premier's Department

Safer, more effective workforce

A research-backed program ensuring SES volunteers and staff are safe and *fit for role*.

What are the minimum physical fitness requirements needed for SES volunteers and staff to safely carry out their roles?

The [SES Fit for Task](#) project continues to improve the health, safety and wellbeing of SES volunteers through the 2023 SES Fitness for Role program, Australia's first nationally consistent approach to SES fitness standards.

Now rolled out across Australia, the pilot took place in Victoria where 1,600 volunteers were assessed in 2024–25. The program fosters objective, bias-free evaluation, supporting inclusive participation while upholding safety. Victoria SES notes the program's influence on recruitment, retention and reasonable accommodations for differently abled members.

AFAC National Working Group efforts ensure consistent tools and practices across states and territories, while the SES National Operations group continues to build on the program with research-based interstate deployment cards outlining skills and associated fitness requirements for various roles including chainsaw operator, rescue boat operator and building repair operator.

Fitness for Role positively impacts physical and mental health and rehabilitation, providing better guidance to medical practitioners and aiding in injury and recovery—bringing in ongoing cultural change about safety and fitness.

"This initiative provided objective measures of the extent we can include individuals and where we shouldn't because it's not safe for them to do so. This fitness information has helped provide better guidance to the medical practitioners doing reviews of people who have medical conditions and injuries (so they) are more informed about their decisions about the capacity and restrictions of SES members."

John Bates, Deputy Controller, Victoria SES

First Nations knowledge

The Centre is committed to building a sector and nation that embraces First Nations' resilience, healing and land management knowledges. This includes developing sustainable research strategies to make way for Indigenous communities to work with emergency sector and land management government agencies.

The following case studies show the impact of Centre research in supporting successful emergency service interactions with First Nations knowledge, practice and care for Country.

Strengthening inter-generational cultural knowledge

Community-led, place-based research revitalising and strengthening inter-generational cultural knowledge.

How can research facilitate a long-term cultural shift in understanding traditional land management and resilient ecological systems across the traditional lands of the Wiradjuri, Wolgalu and Ngannawal people?

[Healing Country through Wolgalu/Wiradjuri-led land management's](#) community-led, place-based methodology continues to build inter-cultural trust and strengthen cultural confidence and has established a reliable workforce built on partnership, cultural safety and self-determination principles. This project is instrumental in revitalising and strengthening cultural knowledge and inter-generational knowledge exchange in the Wiradjuri/Wolgalu Aboriginal community of Brungle/Tumut and their Indigenous ranger program, Bugang Bila, created following the devastating 2019–20 Black Summer bushfires.

The project led to the Brungle-Tumut Local Aboriginal Land Council (LALC) securing a National Indigenous Australians Agency ranger program due to the thriving relationship between the community and natural resource management agencies to care for Country. This was made possible by having a Wiradjuri/Wolgalu woman organise cultural land management work through Bugang Bila, encouraging more women care for Country. The new ranger program will offer on-Country employment for men, women and young people.

"We view the project resources as a valuable resource for strengthening our partnership. It offers meaningful insights into the barriers that can hinder the development of genuine and lasting relationships with Traditional Owners. The findings will inform our approach as we collaborate with the local community to support and enhance cultural land management practices into the future."

Cherie White, Natural Capital Advisor, NSW Department of Primary Industries and Regional Development

Better, more respectful partnerships between communities and emergency services

Meaningful engagement between First Nations communities and emergency services leads to meaningful partnerships, with Centre projects providing the evidence base for appropriate, respectful collaboration.

How can the emergency sector and First Nations communities better connect in a culturally appropriate and respectful way?

The following two projects provide frameworks for researchers and emergency service organisations to establish and grow relationships with First Nations communities and organisations.

Connecting Indigenous People and the emergency sector boosted engagement and disaster response dialogue in the Southern Gulf region of Queensland following a significant flood in the Burke Shire in 2023. Project participants co-wrote a *Statement of mutual understanding and intent* outlining how they and other communities and emergency organisations will work together in a participatory, inclusive way.

Cultural land management research and governance in Southeast Australia ensures appropriate and respectful engagement with First Nations communities and greater recognition and inclusion of First Nations' rights and perspectives in natural hazards research. Developed in response to recommendations from the 2020 Royal Commission into National Natural Disaster Arrangements, the resulting *Cultural land management principles and protocols* embeds respectful and collaborative engagement by researchers.

"Increasingly, bushfire and land management agencies in Australia are recognising the need to work in partnership with First Nations communities to get the best outcomes for residents and Country. I am very pleased to see it has produced not only a range of interesting findings and implications for practitioners and policymakers working in this space, but also outputs outlining principles and protocols that those people can put into their work right away."

Aidan Galpin, Manager, Bushfire Management Council, Country Fire Service, South Australia

Centre projects continue to enhance the Australian Institute of Disaster Resilience (AIDR) Knowledge Handbook series, including advice on engaging with and supporting rural and remote Indigenous communities:

- *Planning Evacuation with Indigenous Communities* companion document references *Hazards, culture and Indigenous Communities* project, highlighting the project finding of working within existing community governing institutions as a key principle in the crucial processes of knowledge and cultural exchange between Aboriginal and non-Indigenous practitioners.
- *Recovery Exercise toolkit* module *Working with Indigenous Communities* references findings from the *Recovery Capitals - Integration* project in consideration for recovery workers and organisations in supporting Indigenous peoples impacted by disaster. The module is used in recovery exercises, workshops and training sessions to support Recovery Committees established following disaster
- The *Planning for Animals Handbook* draws on best-practice guidance from the *Managing animals in disaster* project, outlining effective animal welfare emergency management in rural and remote Indigenous communities. This evidence base is a key resource for managing companion animals in remote Indigenous communities during disaster, as referenced in the [Animal Management in Rural and Remote Indigenous Communities \(AMRRIC\)](#).

"Research generated by Natural Hazards Research Australia and its forerunners have long informed the development and review of the handbooks. Most recently, the Planning for animals handbook was the product of BNHCRC research in 2015 identifying the need for best practice planning guidance. When AIDR revised the Evacuation Planning Handbook, it was recognised that a suite of companion guides were required. Discussion with NIDR led to the team researching and producing best practice planning guidance for Aboriginal and Torres Strait Islander Communities, and those agencies working with them."

John Richardson, Executive Director, Australian Institute of Disaster Resilience

Interoperability

As disasters become more frequent and severe, often crossing state and territory borders, the need for national systems and capabilities is more important than ever. These emerging, evolving and established projects showcase how the Centre is leading this emerging area.

Better decisions and incident response

Effective decision-making training and tools for organisational and community response and resilience.

How can incident controllers respond to emergencies with agility, efficient allocation of resources and effective risk management?

The [Australasian Inter-service Incident Management system \(AIIMS\)](#) training products are emergency management doctrine for coordinated incident management. [Improving decision-making in complex multi team environments](#) was instrumental in demonstrating the importance of non-technical skills in these products. The AFAC practitioner guide [Embedding Non Technical Skills into Emergency Management Training](#) integrates the project's findings into the [PUA Public Safety Training Package](#). The project's findings also inform [AIDR's 2023 Incident Management Handbook](#), outlining the nationally agreed effective incident management principles and highlighting the project's decision-making research findings.

Building on *Improving decision-making in complex multi team environments*, [Enhancing Decision Making in Emergency Management](#) will develop comprehensive, evidence-based and easy-to-use decision-making resources for incident controllers, incident management teams and training facilitators. This addresses an identified essential emergency management capability gap, providing decision-making guidance embedded in emergency management training and development programs. This guide will assist improved operational guidance and doctrine through effective decision making.

"The project addresses a persistent challenge: helping emergency managers clearly justify their decisions under pressure. In recognition of this need, AFAC is actively collaborating with the research team to develop an evidence-based guide that translates over a decade of research into practical tools for decision-making across all levels of emergency management."

Sandra Lunardi, Director of Industry Workforce Development, AFAC

Decision making and operational tools for safer personnel and communities

Natural hazard risk reduction through the translation of research evidence into pragmatic guidance.

How can research findings be translated and put into practice to minimise asset vulnerability and guide priority actions in complex environments?

[Embedding Foresight into Disaster Risk Assessment and Reduction](#) developed [UNHaRMED](#), a proactive disaster risk assessment and reduction planning tool to improve decisions before and during emergencies. The WA government has rolled out the UNHaRMED framework through a two and a half year \$2.22M project to co-develop two case studies, a formal training package for government staff and webtools to support the high-level implementation of [UNHaRMED](#).

The Australian Housing and Urban Research Institute (AHURI) also uses UNHaRMED as a data and assessment risk tool for in-housing decision-making planning and delivery. The [Inquiry into housing policy and disasters](#) report particularly recognises how UNHaRMED takes into account levels of social vulnerability by exploring the impacts of policy and legislation against elements such as community education as valuable in the decision-making process.

[“UNHaRMED was designed to support policy makers to better understand and address the long-term risks of natural hazards, such as coastal inundation, riverine floods, bushfires and earthquakes.”](#)

University of Adelaide newsroom

Data management and science

Australia has long grappled with devastating bushfires, driven by our hot, dry climate and complex landscapes. Information, communications, data management practices and the application of data science, sensing and monitoring is key in better emergency decision making.

Centre projects contribute to safer communities through enhanced fire spread prediction, supporting experts and leaders to understand and apply emerging intelligence and AI to disaster resilience and risk reduction.

Safer communities through faster, better bushfire information

Underpinned by latest science, the Australian Fire Danger Rating System (AFDRS) was launched in 2022 to make fire danger ratings simpler and easier to understand for community. The ratings provide an indication of the consequences of a bushfire, if a bushfire was to start, to inform members of the public of what actions to take and supports operational decision makers.

Previous Centre research contributed to the:

- Public communication design of the AFDRS through investigating bushfire communication methods
- Understanding of bushfire fuels through investigating fuel classification and availability
- Underlying bushfire science via research into fire behaviour modelling; and
- Validation of the AFDRS via the availability of bushfire behaviour data on rate of spread.

This research continues to make a difference by enhancing the accuracy and timeliness of fire danger ratings, improving community decision making and ultimately making communities at-risk of bushfire safer and more resilient.

"The AFDRS has come together through strong collaboration between researchers and fire and land management agencies. Ongoing bushfire science continues to inform important updates to fire behaviour models, which are now being applied operationally across the country."

Dr Meaghan Jenkins, Manager, AFDRS

The development of the AFDRS is modular and dynamic to ensure that it can be updated utilising the latest science. Current Centre research is contributing to this development through:

- Better understanding landscape dryness which is a current weakness in fire behaviour models
- Enhancing fire behaviour models for low intensity fires to reduce over warning and enhance engagement with industry (e.g. farmers)
- Improving inputs into grass fire models, enhancing their accuracy and improving the information available for community decision making.

A smarter Australian fire spread model

Past, current and future fire spread modelling is stronger and smarter thanks to Centre-led projects.

The CSIRO has and continues to build and enhance the national fire spread model *Spark* with Centre research findings improving the simulation of fire spread with world-leading precision and reliability. These projects have added to *Spark*'s capability to be a highly advanced, next-generation computational framework system that supports real-time emergency response:

- Modular and scalable: [Fire spread prediction across fuel types](#) supports *Spark* customisation to model rate of fire spread and intensity across different fuel types, terrains and weather conditions and improve operational planning, community warnings and deployment of resources.
- Data-driven: [Fire coalescence and mass spot fire dynamics](#) identified and mapped spot fire development and coalescence drawing on real time data to develop a model that accurately represents bushfire spread often driven by mass spotting and other complex fire behaviours.
- Operational-ready: [Fire Ember Transport](#) built on the *Improved predictions of severe weather to reduce community impact* project to provide up-to-date parameterisation to *Spark*, addressing next generation fire simulation operational tool needs.

[“It’s a leap from really pure fluid dynamics and physics to how we’re issuing warnings that are timely, accurate, and meaningful.”](#)

Sandra Whight, Executive Director National Capability, National Aerial Firefighting Centre/AFAC

[“The development of *Spark* through Natural Hazards Research Australia projects has improved reliability of outputs and therefore be able to inform communities where the impacts are going to be, with increased confidence.”](#)

Chantelle O'Brien, Bushfire Systems Specialist, AFAC

Ongoing Centre research continues to build and refine *Spark*'s capability:

- [Eucalyptus forest fire spread model](#) will improve understanding of fire behaviour across a range of conditions - from those suitable for prescribed burning and low - intensity fires to high-intensity, full fuel strata fires - supporting more informed incident management decisions.
- [What makes a good fire simulator](#) will be used by the AFAC Predictive Services Group to refine simulation workflows, enhance current practices and improve the accuracy of targeted bushfire simulations.
- [Fire coalescence and mass spot fire dynamics](#) will support firefighters training and educational material development to better understand the full spectrum of possible fire behaviours in given scenarios to improve situational awareness and safety.

Data-driven decision making and strategy

Targeted disaster risk reduction information, services and engagement with communities who need it most.

Which Australian communities have the most – and least – resilience to natural hazards and disasters, and what factors make support or undermine this?

The groundbreaking Australian Disaster Resilience Index (ADRI) launched in 2020 was the first nationally standardised assessment of communities' capacity for disaster resilience in Australia. Developed in partnership with the University of New England (UNE) and later, NEMA, ADRI is scientifically rigorous and peer-reviewed, with the recent 2024 refresh ensuring its usefulness and currency.

ADRI:

- Strengthens social cohesion to reduce disaster risk: using ADRI, the NSW Government developed targeted, risk-informed approaches to identifying resources and measures needed to reduce the risk of future disasters. The NSW State Disaster Mitigation Plan also leverages data and insights from ADRI to inform strategies and effectively allocate resources.
- Targets community engagement: NSW SES community resilience engagement planning uses ADRI data to ensure communities who need it most are targeted first. This evidence-based approach ensures engagement strategies effectively communicate, collaborate and encourage community members, organisations and stakeholder participation to help strengthen their community's ability to prepare, respond and recover from disasters and emergencies.
- Improves quality of life through public service delivery: NSW Treasury's Performance and Wellbeing Framework uses ADRI to analyse the distributional impacts of natural hazard events and ensure informed decision making and effective policies that enhance collective wellbeing.
- Builds secure, sustainable and cohesive communities: the Commonwealth *Measuring What Matters* framework uses ADRI as the measure for its sustainable climate resilience indicator, reflecting the Australian community and economy's capacity to withstand the challenges and damages of climate change.

A valuable and valued resource, ADRI usage includes:

- 657 unique users
- more than 300 different organisations represented in user group
- more than 65,000 unique user sessions recorded.

"What ADRI helps us with is to actually understand the communities. It helps us understand their resilience. And when we combine (NEMA's) view of risk with resilience, it helps us better target our mitigation activities and bring much better outcomes for communities that are more targeted and supported."

Paul Gloyne, Deputy Coordinator-General and Chief Data Officer, NEMA

"(Internally) ADRI is one of the critical data sets our community capability team use to determine how we build community resilience in partnership with communities. It enables us our agency to prioritise which work we do, as well as the most effective approach."

Alexandra Bragg, Senior Manager Strategy, NSW SES

"ADRI-2 data has been beneficial in addressing gaps in measuring disaster resilience in our Performance and Wellbeing framework, particularly at the state level. We hope that it can be embedded in future reporting to provide a more comprehensive analysis of the distributional impacts of disasters and intend to retain the ADRI-2 data as a performance indicator in our framework for future reporting."

Economist from NSW Treasury

Capability development

The Centre continues to deliver the ECR Development and Industry Fellowship, Postgraduate Research Scholarship Program, Postgraduate Research Associate Student Program and the Disaster Challenge.

The Centre established the new First Nations Scholarship Program with two host universities currently carrying out recruitment.

As of 30 June 2025, the Centre has supported 83 students in their postgraduate studies. Adjusting for completions, 65 postgraduate students are currently active in Centre programs, including 41 Postgraduate Scholars and 24 Associate Students. To date, 13 doctoral completions are recorded, nine Postgraduate Scholars and four Associate Students.

Alongside the established Early Career Researcher (ECR) program, the Centre's Early and Mid-Career Academic and Practitioner (EMCAP) Network has emerged as a strong, collegial peer network representing the next generation of natural hazards and disaster resilience leaders. During the reporting period the EMCAP Network began a consolidated professional development program, making progress towards establishing a strong foundation for future growth and impact.

The completion of the Centre's pilot Industry Internship program focused on natural hazard and/or disaster resilience research students in industry placements, two further pilot interns were placed in partner organisations. A fourth pilot internship placement is in development ahead of the planned national rollout to Centre Participants in 2025–26.

Postgraduate Research Scholarship Program

The Postgraduate Research Scholarship Program provides full and top-up scholarships over three and a half years, as well as access to industry expertise and support. Postgraduate Scholars are funded to attend the annual Natural Hazards Research Forum, which includes a dedicated postgraduate symposium.

The Centre currently funds 41 Postgraduate Scholars conducting research projects (five full and 36 top-up scholarships), inclusive of three Scholars whose theses are currently under examination, as shown in Appendix 4.. This also includes the results of the scholarship assessment rounds conducted during the reporting period, where one student was awarded a full scholarship and ten students were awarded top-up scholarships.

Postgraduate Research Associate Student Program

The Centre's Postgraduate Research Associate Student Program is for students conducting research in areas of significant interest to Participants but not directly involved with the Centre.

Associate Students receive in-kind support from for professional development opportunities at conferences and events and can apply for travel funding to support their study program. This includes free attendance at Centre events including the Natural Hazards Research Forum and dedicated student engagement and networking activities.

There are currently 24 Associate Students, as shown in Appendix 4.

As of June 2025, four Centre Associate Students were conferred a doctorate, as shown in Appendix 4.



Early Career Researcher Fellowships

The Centre's Early Career Researcher (ECR) Development and Industry Fellowship opportunities are designed for postgraduate students, recognising the importance of supporting ECRs to expand their networks, create strong local and international collaborations and explore the diverse challenges facing natural hazards research in different geographic, societal, cultural and climatic settings.

The fellowship categories are:

- Development Fellowships for students who have completed two years of full-time (equivalent) study and PhD-qualified researchers employed in research positions in research institutions or universities within Australia, for up to five years after their PhD graduation during the final year of their PhD studies.
- Industry Fellowships, for PhD-qualified researchers employed in industry (where their employer is a Participant of the Centre) for up to five years following their PhD graduation.

The Centre currently has five ongoing fellowships, four development and one industry, as shown in Table 5.

As of June 2025, three Centre Fellows completed their ECR Fellowships as shown in Table 6.

Early and Mid-Career Academic and Practitioner Network

The Centre established the EMCAP Network to support and foster excellence in the science and management of natural hazards. The Network contributes to the long-term development of the Centre and its mission, ensuring collaboration with Participants and communities to deliver research that is useful, useable and used for a safer, more resilient and sustainable Australia.

Membership is free with applications accepted at any time through the Centre's website, with 119 members to date. LinkedIn groups and email are used to communicate with the network. The Executive Committee plans, oversees and delivers professional development activities, facilitates stakeholder connections and strengthens ties between research and practice.

The Centre provides funding of \$10,000 per annum to support expenses associated with Executive Committee attendance at the Centre's annual forum, planning and professional development days and other strategic events. The inaugural EMCAP Executive Committee was established in June 2024, with current members listed in Table 7.

The Network's Executive Committee conducts monthly online meetings and met once in-person during this reporting period. Informed by a survey of members' needs, the EMCAP Network's Executive Committee held an in-person workshop prior to the Natural Hazards Research Forum in June 2025. This session provided professional development and networking opportunities for members and had a total of 30 attendees.

Table 5: Ongoing Fellows participating in the Centre’s Early Career Researcher Fellowship program

No.	First name	Last name	Type	Study topic
1	Dr Danielle Heinrichs	Henry	Development Fellow	Resilience building through collaborative adaptation of heatwave messaging
2	Dr Nick	McCarthy	Industry Fellow	Enhancing resilience and safety in bush and grass firefighting: Adapting interdisciplinary and international frameworks for Australian contexts
3	Dr Phillipa	McCormack	Development Fellow	Wildfire law and policy network
4	Dr Gabrielle	Mocatta	Development Fellow	Exploring the affordances of immersive media technologies for natural hazard communication and resilience building in Australian communities
5	Dr Elise	Remling	Development Fellow	Strengthening community-led disaster preparedness in Australia by learning from New Zealand’s advanced experience

Table 6: Centre Fellows who have completed their Early Career Fellowships

No.	First name	Last name	Type	Study topic
6	Dr Kate	Brady	Development Fellow	Fostering international collaborations and improving science communication for disaster recovery
7	Dr Amelie	Jeanneau	Development Fellow	Interdisciplinary collaborative platform for reducing future bushfire risk and increasing community resilience
8	Dr Phillipa	McCormack	Development Fellow	Bushfire mitigation and hazard reduction in Australian law

Table 7: EMCAP Network inaugural Executive Committee

Committee member	Affiliation	Representation
Dr Hamish Clarke (Chair)	The University of Melbourne	Victoria
Ruby Campbell	Stantec	Victoria (national)
Dr Thomas Cooper-Johnson	The University of Newcastle	New South Wales
Dr Suki Jaiswal	The University of New South Wales	New South Wales
Dr Adriana Keating	Monash University	Victoria
Dr Kirstin Kreyscher	Deakin University	Victoria
Dr Petter Nyman	Alluvium	Victoria (national)
Dr Kamarah Pooley	Fire & Rescue New South Wales	New South Wales

Table 8: Pilot Internships with Industry

Industry partner	Intern	Status	Representation	Internship topic
NSW National Parks and Wildlife Service	Shabnam Varzeshi (RMIT University)	Complete	New South Wales	Review of NPWS research utilisation practices
Queensland Fire Department	Siti Munafia Walker (University of Melbourne)	Ongoing	Queensland	Landholder legal responsibility for managing bushfire hazard
Department of Fire and Emergency Services	Anna Louise Durkin (RMIT University)	Ongoing	Western Australia	Compare and contrast LA & WA wildfire resilience, preparedness and response

Professional development

Knowledge modules

Centre research projects that generate professional development and knowledge outputs play a key role in supporting research knowledge uptake and translation. As projects reach their final milestones, the Centre works closely with Participants to ensure outputs are accessible, practical and ready for use. This can include hosting knowledge modules within lead Participant organisations, providing clear summaries about findings, outlining their lifespan and indicating when future content may be available to support ongoing utilisation.

In this reporting period, the *Extreme fire behaviour modules* were developed into knowledge modules from the *Modelling fire weather interactions using the ACCESS-Fire model* project and released in March 2025. The next suite of knowledge modules, *Utilisation of transformative scenarios in a climate-challenged world* translates findings from the project of the same name and is planned for release later in 2025.

PROFESSIONAL DEVELOPMENT RECOGNITION

The Centre has reached an exciting new milestone to elevate its capability-building initiatives. Knowledge translation activities such as the hazardous webinars, annual forum, workshops, and knowledge modules are now formally recognised as continuing professional development (CPD) through AFAC's Emergency Management Professionalisation Scheme (EMPS). This important collaboration with AFAC supports ongoing professional growth in the sector.



Modelling fire weather interactions using the ACCESS-Fire model

Three Extreme fire behaviour knowledge modules were developed to translate findings from the 2019-20 Black Summer bushfire season research for fire behaviour analysts and fire meteorologists. These knowledge modules support interdisciplinary collaboration to identify key that may lead to extreme fire behaviour.

Four organisations are currently licensed to access to the modules via AFAC's established learning platform.

Utilisation of transformative scenarios in a climate-challenged world

These knowledge modules are designed as professionally delivered workshops for agency leaders where sector leaders can stress test their strategies and planning for future scenarios. Hosted on AFAC's established learning platform, the seven modules provide the opportunity for strategic development in an integrated learning platform. The modules are expected to be available in the second half of 2025.

Industry internships

Industry internships create opportunities that bridge research and practice. The Centre's first internship pilot was undertaken in partnership with the NSW National Parks and Wildlife Service (NPWS) and is now complete. Two further pilot internships are underway with Queensland Fire Department and the WA Department of Fire and Emergency Services, due for completion in later 2025 as highlighted in Table 8.

First Nations Scholarship Program

The First Nations Scholarship Program was co-designed with First Nations leaders and academics using a research scholar-centred approach. Rollout of the program with host universities will follow the same approach. The scholarship will provide students with a monetary stipend and research support, administered by their host university, as well as the opportunity to apply for community engagement support, industry placement and ECR Development Fellowships administered by the Centre.

The research scholar-centred design approach adopted for this program:

- provides incentives for research scholars to attain a higher degree research qualification
- facilitates opportunities for research scholars to engage with industry placements
- enables research scholars to fulfil cultural needs for themselves and their communities.

This scholarship program establishes a long-term pathway for First Nations scholars to develop skills and undertake research that aligns with the Centre's key research focus areas and the key capability areas, as listed in the Biennial Research Plan 2024-26. The program will also actively identify and encourage potential research scholars in different life stages and backgrounds to apply for support, as well as consider their specific needs, community relationships and objectives.

In December 2024, the Centre welcomed expressions of interest for this program. In this reporting period, following the assessment of expressions of interest, the Centre established two inaugural First Nations Scholarship Programs in two universities that will each support one First Nations Research Scholar for the duration of their research. The Centre will work with La Trobe University and the University of Wollongong as host universities for the First Nations Scholarship Program.

Dr Philippa McCormack, University of Adelaide

Philippa's fellowship project *Wildfire law and policy network* develops a user-friendly website that gathers and presents existing knowledge on law and policy related to bushfire prevention, preparation, response and recovery with a focus on climate adaptation.

Serving as a central hub for the new Wildfire Law and Policy Network, the platform and network strengthens Australia's bushfire mitigation and hazard reduction laws by providing a platform to test legal reform ideas, translate scientific research into legal and policy impact, and support early – and mid-career researchers in the fields of law and governance.

"I'm so grateful to Natural Hazards Research Australia for their support as I work towards making a difference through the combination of serendipity and planning."

Syed Adeel Akhtar, University of Tasmania

Adeel's project *Application of emotional intelligence in emergency management* enhances teams' and organisations' collaboration during disaster response. Exploring the critical role of trust building in high pressure situations, especially during international deployments, while also addressing broader challenges across the disaster response sector, research findings currently inform and support Urban Search and Rescue (USAR) teams in Fire and Rescue New South Wales (FRNSW) and Queensland Fire and Emergency Services (QFES). Adeel's project and presentation style were shortlisted in the Cooperative Research Australia's 2025 Early Career Researchers Competition.

"I joined Assistant Commissioner David Lewis AFSM from Fire and Rescue NSW to highlight emotional intelligence as a vital operational asset in emergency response, not just a 'soft skill'. Representing the University of Tasmania and supported by Natural Hazards Research Australia, we're advancing emotionally smart emergency responders across Urban Search and Rescue and the emergency management sector."



Dr Kiam Padamsey, Edith Cowan University

Kiam's research highlighted volunteer firefighters were often unaware of smoke-related risks and had insufficient access to adequate personal protective equipment (PPE), decontamination facilities and health monitoring support. In response, more than 700 Western Australian forestry firefighters were provided with P3 masks and operational changes implemented include workplace showering and laundering facilities, improved decontamination protocols and health monitoring programs for more than 200,000 wildland firefighters.

"Edith Cowan University PhD student Kiam Padamsey is already making improvements to the health and safety of WA firefighters. Thanks to Kiam's work, more than 700 WA forestry firefighters are now being issued P3-rated respiratory masks ahead of bushfire seasons. His findings also prompted calls for improved laundering and showering facilities, as well as for further research into decontamination protocols and long-term health monitoring."

Nicol-Marie Owen, Industry Engagement Adviser, Edith Cowan University

"...the impact (Kiam's) research has had on protecting the health of volunteer and paid firefighters, who are now better protected and less likely to suffer from the exposure to toxins associated with firefighting. This direct translation and implementation of research results is rare – and serves as a testament to the importance of his research."

Dr Kirstin Ross, Flinders University

Dr Nouman Khattak, Queensland University of Technology

Nouman's research investigated the characterisation and seismic vulnerability assessment of unreinforced masonry buildings in Queensland. The findings of his work supported the development of a specialised assessment framework for seismic vulnerability and enhanced insights into emergency preparedness for buildings of all kinds at risk of earthquake.

"Nouman's PhD project played a central role in creating a comprehensive database of 1,100 legacy unreinforced masonry buildings across Queensland. His efforts contributed significantly to the development of a subsequent Natural Hazards Research Australia-funded project *Managing Earthquake Risk: Unreinforced Masonry Building Database*."

Hossein Derakhshan, Queensland University of Technology

"[Nouman's] research has practical applications for strengthening, restoring, rehabilitating and extending the useful life of both structural and non-structural masonry, thereby reducing the carbon footprint of construction and enhancing sustainability."

Nimal Perera, Kasina Consultants Pty Ltd

Dr Fadia Isaac, Federation University

Fadia's research developed a sleep-focused, self-paced online psychological treatment designed for people affected by bushfires, living in remote areas without access to mental health services, experiencing sleep and trauma symptoms after natural hazard events and who may avoid in-person treatment due to stigma.

"By prioritising survivor care through innovative digital interventions, Fadia's research exemplifies excellence in addressing real-world crises with evidence-based solutions. This work not only advances scientific understanding but has the potential to transform the lives of bushfire survivors worldwide."

Prof Britt Klein, Federation University

"Fadia's work has identified a real-world problem, she carried out scientific research and developed a practical and accessible solution to assist bushfire survivors."

Prof Gerard Kennedy, RMIT University

Dr Suki Jaiswal, University of New South Wales

Suki's research deepened understanding of how bushfire smoke impacts the ocular surface, the eye's interface with the environment, by identifying symptoms associated with smoke exposure and assessing the effects of repeated exposure on frontline emergency workers.

"Suki's research has already raised national and international awareness around the need for improved eyecare delivery during periods of poor air quality caused by bushfire smoke. Building directly on the findings and identified gaps from Suki's PhD research, this work will be highly translational and is positioned to have meaningful, real-world impact on occupational health practices within the fire and emergency services sector."

Dr Isabelle Jalbert, University of New South Wales

"In my opinion, Suki's research has global significance and will have far reaching impacts wherever people are exposed to smoke from burning vegetation. The innovation and operational improvements driven by the work are likely to be relevant wherever people's eyes are exposed to smoke from any source."

Dr Adam Leavesley, ACT Parks and Conservation Service



The Disaster Challenge

The Disaster Challenge is an important research-informed challenge in the Centre's calendar of events. The Disaster Challenge aims to catalyse early career researchers, postgraduate students and undergraduate students across Australia to take on a real-world natural hazards-related wicked challenge. A wicked challenge is one that is urgent but difficult to solve because of incomplete, contradictory or changing requirements that are often difficult to recognise or evaluate.

The Centre hosted the third annual 2024 Disaster Challenge with the final held on 3-4 October 2024 at the Department of Fire and Emergency Service's (DFES) Bushfire Centre of Excellence in Mandurah, Western Australia. The challenge attracted 18 entries from all around Australia, coordinated by 14 Steering Group members, mentored by six Centre staff, seven industry experts, and judged by Linley Brown (DFES), Dr Margaret Moreton (AIDR) and Mal Cronstedt (Chairperson, Interchange WA).

The wicked problem set by the Steering Group for the 2024 Disaster Challenge was:

In a world where trust is both vital and fragile, how can we build and sustain trust across our whole society to drive the collective and coordinated actions that are fundamental to reducing the risks and impacts of disasters, and strengthening the safety, sustainability and resilience of all Australians?

The Steering Group selected three finalists from the high calibre entries to pitch their solution to the wicked problem. Finalists pitched their solutions to build trust between homeowners and insurance companies, extreme heat relief to at-risk populations during heatwaves and an AI chatbot providing localised information during disasters.

Developed by psychology postgraduate students at James Cook University, the winning pitch titled *Building trust and resilience: Improving community disaster response through personalised messages*. Team members Alison Sheaves, Craig Ridep-Morris and Madison Green used human behavioural theory to develop the idea of an accessible personalised AI chatbot providing current, localised emergency information that is scalable to various locations and types of disasters.

The AI chatbot would deliver postcode-specific disaster information to communities and would be integrated into existing local government disaster dashboards. The team since carried out significant media around their idea, including radio and television in Queensland and is working on developing their concept further, while balancing the completion of their respective PhDs.

An internal review of the Disaster Challenge was completed to ensure it makes the biggest impact in line with the Centre's strategy, vision and mission. The review included 16 interview sessions with coordinators, mentors and participants from previous Challenges and the findings inform a streamlined 2025 Disaster Challenge.

The Centre is currently hosting the 2025 Disaster Challenge, the fourth annual challenge. The wicked problem set for the 2025 Disaster Challenge is:

How can we innovate our infrastructure – physical, social, green and other types of infrastructure, community and place to enable effective and affordable community-led place-based disaster resilience? This could be at any scale, for local communities, local government authorities, state government or national.



"(Our) idea wouldn't have gone anywhere if it wasn't for the Centre and the Disaster Challenge. This experience is not only for professional development opportunity but also opportunity to share a new way of doing something and to promote something really beneficial."

Natalie Oliver, previous entrant

Executive masterclass

Ahead of the Natural Hazards Research Forum 2025 in Adelaide, the Centre hosted its first *Executive Masterclass: Strategic foresight and innovation for tomorrow's world*.

This immersive executive session aimed to equip emergency management and disaster resilience leaders with research informed strategic foresight capabilities and innovative mindsets to proactively navigate an increasingly turbulent risk landscape. The objective was to enhance strategic readiness through exploration of emerging threats, disruptive scenarios, and pioneering frameworks that transform mindsets to *Be Ahead of Ready* in the context of future worsening natural hazard risk.

The masterclass program included a suite of senior, subject matter experts that shared their insights of a variety of topics including natural hazards strategic risks, social and economic trends, geopolitical influences, artificial intelligence, political and citizenship trends.

Key learning areas included strategic foresight and horizon scanning, exploration of research-driven future scenarios, adaptive leadership and complex systems as well as strategic decision-making.

The intended outcomes were to:

- drive the development of executive skills and capabilities to plan for and adapt to uncertain futures
- improve understanding of future opportunities, challenges and complex scenarios
- feel equipped to apply learnings to their everyday work.

"There were so many great insights and thought-provoking discussions but what really stuck was that foresight is about preparing for multiple possible futures – you need to involve the people that will be the workforce decades from now – so it is just as important to build the skills, attributes and qualities of an organisation to prepare it for all possible futures as it is to plan the actual work of an organisation."

Nicola Clark, NSW SES, masterclass participant



Recognising research excellence

The Natural Hazards Research Australia awards are designed to celebrate exceptional research and teamwork used to improve decision making that will help save lives and protect communities.

Natural Hazards Research Australia Awards 2025

The inaugural Natural Hazard Research Australia Awards were announced at the Centre's Forum in Adelaide in June 2025. The awards celebrated exceptional research and teamwork that improves decision making to save lives and protect communities.

Research Student Award recipients

Joint winners

- Dr Nouman Khattak (Postgraduate Student Scholar, completed 2024)
- Dr Kiam Padamsey (Postgraduate Student Scholar, completed 2025)

Highly commended

- Dr Fadia Isaac, University of (Postgraduate Student Scholar, completed 2025)
- Dr Suki Jaiswal (Postgraduate Scholar, completed 2025)

Research Team Award recipients

Joint winners

- Predictions in Public: Understanding the design, communication and dissemination of predictive maps to the public
- Bushfire Risk at the Rural Urban Interface

Highly commended

- Community Experiences of the 2022 floods (NSW and Qld)

Natural Hazards Research Australia staff

Knowledge leadership and advancement

In October 2024, Victoria and Tasmania Node Research Manager, Dr Blythe McLennan was recognised for her significant impact on knowledge development and advancement in the emergency management and disaster resilience sector in the Australasian Women in Emergencies Network (AWE) Recognition Awards 2024.

Passionate about building strong and diverse collaborations to support impactful, accessible, policy-relevant research, Blythe's dedication and willingness to go above and beyond was highlighted in the award notes.

"Blythe is a committed and tenacious advocate for the disaster researchers she supports. She continuously demonstrates a dedicated effort to helping researchers navigate process hurdles and supporting them to deliver their work in a way that will benefit communities and the emergency management sector."

According to Blythe, the award is especially meaningful due to the awarding organisation and its mission.

"It feels really special to be recognised in this way by the AWE. I love working with disaster researchers and their project partners to navigate all the twists and turns of doing good, impactful research in this sector," Blythe said.

Blythe is among 23 women recognised this year, with award winners playing a wide range of roles and organisations across Australia, New Zealand and the Pacific.



Natural Hazards Research Australia researchers

Trailblazing strategy as practice

Centre researcher Prof Paula Jarzabkowski from the University of Queensland was awarded the Academy of Management's Joanne Martin Trailblazer Award in August for her outstanding work in the field of organisation and management theory.

The bi-annual Joanne Martin Trailblazer Award recognises experts who advance insights, expand theory and build community to develop a practice-theory based approach to strategy and organisation.

Centre CEO Andrew Gissing stated that not only is the award well-deserved, it highlights the benefit of innovative, intersectional approaches disaster risk reduction and recovery.

"Paula is a trailblazer whose significant skills, experience and knowledge are helping Australian communities stay safer, more resilient and sustainable.

Paula's application of Strategy-as-Practice to disaster resilience and risk reduction is deserving of this international recognition," Andrew said.

Paula's research with the Centre highlights the way new and often unconventional thinking can be applied to disaster risk reduction and resilience activities, including in the current *Evaluating the Resilient Homes Fund* project.

Managing bushfire risk

The Fire Centre, established in 2018 by Centre researcher Prof David Bowman at the University of Tasmania, won the Resilient Australia National Collaboration and Partnership Award in November.

The Fire Centre is a bushfire research hub that integrates methods from science and humanities. The Fire Centre aims to achieve a holistic understanding of bushfire disasters and develop cost-effective interventions and public education campaigns to build community resilience.

The award recognises the strong collaborative relationships the Fire Centre has developed with local councils, fire-management agencies, Aboriginal communities contributing traditional knowledge and world-leading fire scientists. It acknowledges the Fire Centre's innovative use of science and community engagement to reduce bushfire risk, including the short course *Living with Fire and Bushfire*.

Natural Hazards Research Australia projects

Bushfire map research shortlisted

Centre project *Predictions in Public: Improving public-facing fire spread prediction map design* was shortlisted as a finalist for the 2024 Resilient Australia National Research for Impact Award.

A collaboration between the Centre, the Country Fire Authority, the Department of Education Victoria, RMIT University, Queensland University of Technology, Deakin University and Swinburne University of Technology, the project is gathering evidence and using collaborative processes to contribute to and support a national approach to the future use of public-facing predictive fire spread maps.

The contributions of other Centre researchers and institutions to enhancing community resilience against disasters and emergencies across Australia are evident in their nominations throughout the Resilient Australia Awards' ten award categories.

"Predictions in Public is already significantly impacting the sector's knowledge about the way community members use, understand and act on bushfire maps, with subsequent phases developing principles that could standardise the use of predictive maps within the Australian Warning System." Predictions in Public project team member, Dr Erica Kuligowski from RMIT University said.

"This is crucial information that will underpin the future design of bushfire maps to ensure they meet the needs of Australians as well as emergency service agencies."

Capturing and sharing examples of resilience in action, the Resilient Australia Awards recognise collaboration and innovative thinking across a broad range of sectors and initiatives that strengthen disaster resilience with communities, institutions, and the private sector.

Tasmanian Resilient Australia Government Award

The Social Recovery Reference Group (SRRG) in Tasmania won the Resilient Australia National Government Award for collaboration, sharing, building and enhancing social recovery across Australia. The SRRG fulfils a vital leadership role in the Centre project *Insights into temporary and emergency accommodation and highly values collaboration and capacity-building*.

Since January 2022, the Tasmanian SRRG strategically targeted interventions that enhance social recovery efforts after natural hazards, recognising the vital role social capital plays in building community resilience. This award highlights two key initiatives the Tasmanian SRRG implemented to support the local, community-based workforce recovery and executive-level leadership to address complex national challenges.

Media

During the reporting period, the Centre maintained a strong media presence, supporting public understanding and shaping informed national dialogue on disaster resilience and natural hazards.

This year the Centre significantly enhanced its media impact capability through Meltwater, a comprehensive media intelligence platform. This shift enabled the capture of a broader and more detailed picture of its media footprint, including international coverage, broadcast television and radio mentions, a substantial expansion from previous years’ tracking.

A total media reach of 2.3 billion views was recorded during the reporting period. This figure reflects a substantial increase from previous years, highlighting the Centre’s growing profile and influence across diverse media platforms.

Media highlights include appearances in *Cosmos*, *The Conversation*, *The Australian*, *Sydney Morning Herald*, *The Guardian*, *SBS News*, *ABC News Radio*, *The Project* (Channel 10), *Channel 9 News*, *The Saturday Paper*, *The Guardian* and more.

The Centre’s long-standing collaboration with the Australian Science Media Centre continues to strengthen its credibility, with regular expert contributions from CEO Andrew Gissing and Science and Innovation Director Cheryl Desha.

The top three news stories by engagement is shown in Figure 7, highlighting the Centre’s impactful media presence during key times of emergency. These high-performing stories are ranked by audience interactions, including shares, comments and reaction, reinforcing the Centre’s position as the go-to place for natural hazards research information.

The Centre’s 2024 Disaster Challenge final in October 2024 was widely reported across media platforms. The winning team featured on *Channel 7 News Townsville* and shared their insights via *ABC Radio* throughout Queensland and New South Wales.

Media interest surged in December 2024 following the release of the Nature Positive Disaster Risk Reduction discussion paper. Cheryl Desha spoke with numerous *ABC Radio* stations across the country, consolidating the Centre’s role as a thought leader advancing climate-resilient strategies.

In January 2025, Andrew Gissing discussed hazard-related housing risks and insurance issues on *ABC News Radio NSW Statewide* and in *Domain* magazine. During Tropical Cyclone Zelia, Andrew provided commentary for *ABC News Radio* in Queensland and Western Australia.

The Los Angeles fires in January 2025 drew significant domestic media engagement, with Prof David Bowman (University of Tasmania) providing contextual analysis in *The Conversation*, *ABC News*, *SBS News*, *The Brisbane Times* and *The Hobart Mercury*. Andrew explored insurance impacts in *The Herald Sun* and gave interviews to *3AW Mornings*, *ABC Newcastle* and *Adelaide 5AAA*.

Tropical Cyclone Alfred prompted coverage across *SBS News*, *The Guardian* and *Sydney Morning Herald*. Andrew and Cheryl authored opinion pieces in *The Canberra Times* and *The Conversation*, with Prof David Henderson (James Cook University) also contributing cyclone-related analysis in *The Conversation*, *the Courier Mail* and *Channel 7 News*.

The Mid-North Coast of NSW floods in May 2025 saw media coverage with the CEO’s Australian Science Media Exchange expert reaction used by *The Guardian*, *SBS News* and *9 News*.

In total, the Centre and researchers featured in the media 1,805 times during the reporting period.


1805
MEDIA
APPEARANCES



13.4M REACH

In just minutes, the Palisades fire in Los Angeles exploded out of control

ABC Online
12 Jan 2025



5.25M REACH

Denial is hard to grasp in the city. In flooded Taree, it’s bewildering

The Sydney Morning Herald
22 May 2025



13.3M REACH

Ex-Tropical Cyclone Alfred sparks call to cyclone-proof homes as far south as northern NSW

ABC Online
23 Mar 2025

Figure 7: Top three news mentions by engagement



Industry-focused publications

Engagement through a range of internal and external communication platforms ensures the Centre’s research is shared with key stakeholders and the public. Key publications include reports, Hazardous Publications, briefing papers, news and research articles, videos, webinars, case studies and development tools for operational personnel in partner organisations and agencies.

The Centre’s monthly digital newsletter was viewed 15,417 times during the reporting period, an average of 1,284 unique views per edition.

To support the translation of research into policy and practice, the Centre continued to expand its suite of publications beyond Hazard Notes to include Practice Notes and Policy Notes. These Notes meet different needs of our diverse stakeholders and communicate applied research insights in an accessible way.

During the reporting period:

- seven Practice Notes published
- three Hazard Notes published and downloaded 526 times in total
- multiple Hazardous Publications ready for publication in 2025.

The *Schools in Fire Country* suite of Practice Notes showcases a place-based, participatory curriculum-aligned bushfire education program for upper primary students in Victoria. Developed with strong cross-sector multi-agency collaboration, the program equips young people with the knowledge, skills and agency to engage with bushfire risk in their homes, schools and communities. Together, these Practice Notes provide a blueprint for developing disaster resilience education programs that empower children as agents of change.

Since publication, the *Schools in Fire Country* Practice Notes were read 815 times and downloaded 64 times by practitioners from partner organisations, emergency and education services.

Centre staff continue to serve on the Editorial Advisory Board and Committee of AJEM, published by AIDR. They regularly contribute direction and content based on Centre research.

The Centre also regularly contributes research-based content to a range of respected industry publications and widely circulated external newsletters, including:

- Fire Australia magazine
- Australian Emergency Services Magazine
- Asia Pacific Fire magazine
- Brigade magazine (CFA)
- Bush Fire Bulletin (NSW RFS)
- Phoenix magazine (Victoria SES)
- AFAC newsletter
- AIDR newsletter
- Collaborative Research Australia newsletter
- Wildfire magazine
- IGEM Research Connect.

Table 10: Social media engagement

	Engagements	Impressions	Link clicks
1 July 2024 – 30 June 2025	32,479	512,990	19,729
Since 1 July 2021	103,879	2,071,391	49,406

Website

The Centre’s website, www.naturalhazards.com.au remains a cornerstone of strategic communications and engagement, serving as a central hub for sharing research, publications, news and events. During the report period, 335,700 unique page views were recorded, an increase of 110% compared with the previous reporting period, further demonstrating the Centre’s position as go-to place for natural hazards, resilience and disaster risk reduction research (Table 10).

Table 9: Website engagement from 2021 to 2025

	Page views	Website users
1 July 2024 – 30 June 2025	335,700	136,061
Since 1 July 2021	703,746	370,863

Social media

Strategic social media engagement is a key way to connect with the Centre’s diverse audiences, including industry professionals, researchers and the broader public. Social media platforms are important in sharing Centre research, news and events while raising awareness about natural hazards and disaster resilience with the public.

During the reporting period, the Centre’s social media following grew by more than 20%, reaching 11,458 followers across Facebook, X, LinkedIn and YouTube. Over the same period, 509,436 impressions and 32,395 engagements were recorded, reflecting the ongoing digital communications strategy implemented throughout the year (Table 10).

Videos

Video continues to be a vital communication tool in translating complex scientific concepts and findings into accessible, engaging content for Participants, stakeholders and communities. During the reporting period, the Centre expanded its video strategy to include a greater variety of short – and long-form content tailored for different audiences and platforms.

The Centre partnered with AFAC to deliver a special Hazardous Webinar series on the LA fires in February and April 2025, featuring expert commentary from international guests and Centre researchers. This collaboration brought a global perspective to disaster research and response, amplifying the Centre’s reach and relevance which was demonstrated by the 3,362 registrations.

The popular Hazardous Webinar series remained key to digital engagement with each live session drawing more than 150 attendees and averaging more than 200 views per recording on YouTube. These sessions, alongside recorded panels from the Disaster Challenge and NHRF25, provide in-depth, evidence-based perspectives on resilience, preparedness and emerging technologies in emergency management.

Further building capability and future leadership, the Centre launched a new initiative supporting postgraduate students and early career researchers to develop compelling ‘elevator pitch’ videos. These short, impactful videos communicate individual research and its real-world impact in an accessible, story-driven format.

In total, the Centre produced 73 videos, generating 8,163 views and more than 1,090 hours of watch time via its YouTube channel.

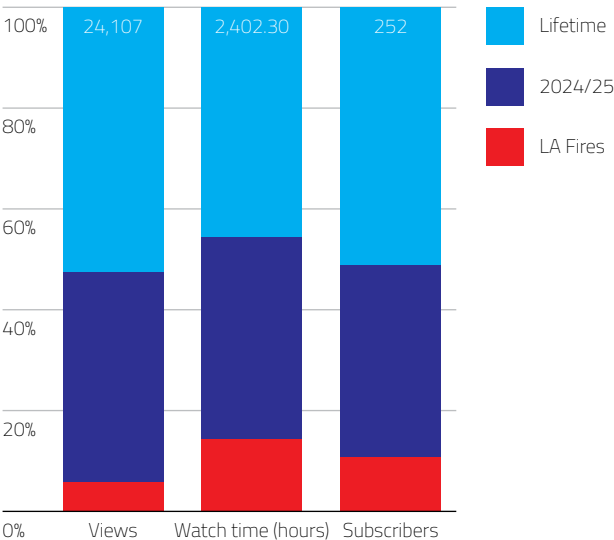


Figure 8: Centre YouTube views from 1 July 2021 to 30 June 2025 compared to total views in 2024–25 and two LA Fires webinars



Events

The Centre’s annual program of engagement initiatives fosters greater collaboration between researchers, government and the emergency sector. This program includes events led by the Centre, as well as those its supports, participates in and contributes to hosted by the emergency, research and disaster risk reduction sector.

The Centre acted as Research Industry Partner for the AFAC24 annual conference held 3–6 September 2024 in Sydney and supported the following events:

- Australian New Zealand Disaster & Emergency Management Conference, Gold Coast
- Victorian Emergency Management Conference 2024, Melbourne
- National Indigenous Disaster Resilience Gathering 2024, Lismore
- Northern Territory Emergency Management Symposium, Darwin
- Fire Australia 2025 – Fire Protection Association of Australia, Sydney
- Floodplain Management Australia National Conference, Victoria

Other events in which the Centre participated and contributed to included:

- AFAC Rural Land Management Group/Forest Fire Management Group meeting, Melbourne
- 2025 Queensland Disaster Management Conference (LGAQ), Brisbane
- ALGA 31st National General Assembly of Local Government, Melbourne.
- Australian Reinsurance Pool Corporation Cyclone Risk Insurance Seminar, Sydney
- BNHRC annual symposium 2025, Sydney
- Collaborate Innovate 2025, Melbourne
- Cooperative Research Australia – Collaborate Innovate 2025, Melbourne
- EMPA – Australian Emergency Communications Conference, Melbourne
- Floodplain Management Australia Pre-Conference workshop, Victoria
- National Parks and Wildlife Services – Fire Management Forum 2025, Sydney
- Nature Conservation Council Bushfire Conference 2025, Sydney

Table 11 includes the Centre’s own Natural Hazards Research Form and other sector related conferences where the Centre is either a sponsor, supporter or partner.

Refer to Event participation page 65 for a detailed list of sector activities in which the Centre participated during the reporting period.

Knowledge-sharing forums include the free public monthly Hazardous Webinars series covering Centre research projects and relevant issues. Industry training courses include project-related research and utilisation sessions for industry personnel, while workshops include one-off gatherings on sector and project-related issues. Additionally, individual projects held meetings between researchers and end-users, online and in person.

The Centre’s Board hosted stakeholder forums in Brisbane, Hobart, Sydney and Canberra during the reporting period. These events provided an opportunity for representatives from the Centre’s broader knowledge network including federal and state and territory government departments, emergency service agencies, research institutions, the private sector and not-for-profits to hear about key Centre achievements and engage with impactful research around Australia.

Table 11: Total Centre-hosted and supported events and training opportunities

Event type	Number of events	Number of attendees (in-person and online)
Conferences	11	10,012
Knowledge-sharing forums	30	12,733
Industry training opportunities	2	60
Workshops	39	1,172

Table 12: Natural Hazard Research Australia hosted webinars registrations by sector, July 2022 – June 2025

Webinars	July 2022 – June 2023	July 2023 – June 2024	July 2024 – June 2025
Organisation	390	534	774
Registrations	1045	1739	5667
Sector breakdown			
Australian Government	3%	8%	10%
State and territory governments	29%	20%	13%
Local government	14%	22%	22%
Not for Profit	8%	12%	10%
Universities	24%	12%	5%
Private entities	8%	18%	36%
International	4%	5%	3%
Other	8%	3%	1%

Table 13: Natural Hazards Research Australia Forums registrations by sector from July 2022 to June 2025

	2022	2023	2024	2025
Registrations	385	403	316	634
Organisation	124	166	108	215
Sector breakdown				
Australian Government	4%	13%	9%	12%
State and territory governments	29%	46%	29%	38%
Local government	1%	4%	3%	6%
Not for profit	3%	6%	4%	8%
Universities	47%	31%	28%	24%
Private entities	6%	14%	3%	8%
International	0%	5%	0%	4%
Other	4%	0%	0%	0%

Natural Hazards Research Forum 2025: Research for big, bold action

Strategic thought leadership starred against a backdrop of increasingly frequent, severe and unpredictable natural hazards during Natural Hazards Research Australia’s 2025 Forum.

Australia’s pre-eminent meeting place for natural hazards research-based thought leadership and dialogue, the Natural Hazards Research Forum 25 (NHRF25) was held 18–20 June 2025 in Adelaide. In its fourth year, NHRF25 drew on more than two decades of natural hazards research to improve community resilience and quality of life in Australia.

Across three days, more than 600 people – in-person and online – registered from 200-plus organisations to engage with leading research, reflect on lessons learned, and explore how innovative research can help build safer, more resilient and sustainable communities for the future.

The program moved beyond transactional relationships and initiatives to transitions and integrated solutions, covering more than 75 research projects and more than 30 postgraduate projects from the Centre’s broader research program.

The Hon Emily Bourke, South Australia’s Minister for Emergency Services officially opened NHRF25, setting the scene for exploring bold and innovative approaches to address Australia’s future disaster resilience needs.

The Australian Disaster Resilience Index, a groundbreaking tool developed in partnership between the Centre, the University of New England and NEMA, launched its first major update since 2020.

End-users and researchers were inspired to integrate innovative and bolder thinking into their work practice, using Centre research outputs and ‘walking the talk’ of *Be Ahead of Ready*.

“The Forum has been fantastic this year, it really feels like all of the work is being consolidated and is moving things forward and we can see shifts in the sector and it’s very exciting.”

Bridget Tehan, Australian Red Cross

The Centre’s community of researchers and end-users connected, co-delivered research findings and reconnected with colleagues to cultivate research ideas and foster research utilisation.

“It’s complex so that’s why it hasn’t been solved, but that’s why Natural Hazards Research Australia exists to help us chip away at the problem until it can one day eventually be solved.”

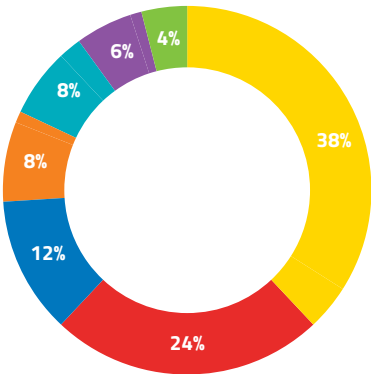
Dr Matthew Mason, University of Queensland and Natural Hazards Research Australia

Decision makers left more informed of upcoming research knowledge aimed at supporting future operational planning, policy setting and strategising.

“So much incredible research is underway. We heard from a diverse range of speakers around the need to locate our housing in areas that reduce risk, either from flood or other natural hazards. And how the lifeline systems that support communities such as power networks are resilient to severe wind and storms, and the role that alternate battery energy technologies can play in supporting communities to be more resilient.”

Amanda Leck, Head, Adaptation, Mitigation and Reconstruction of the NSW Reconstruction Authority

600+
REGISTERED
200+
ORGANISATIONS
REPRESENTED



- State and territory government (38%)
- Universities (24%)
- Australian Government (12%)
- Non for profit (8%)
- Private entities (8%)
- Local Government (6%)
- International (4%)

Lessons from the LA Fires for Australia's future preparedness

In the wake of the devastating January 2025 Los Angeles wildfires, the Centre delivered two timely special event webinars bringing together international experts and local knowledge to extract critical lessons for Australia's disaster risk reduction community.

With more than 28 fatalities, 17,000-plus structures destroyed, and economic damages estimated between USD 150 and 275 billion, the disaster highlighted the vulnerability of modern urban environments to extreme bushfire.

The two webinars, hosted in partnership with AFAC, showed the Centre's commitment to rapid knowledge transfer and international collaboration. Attracting a combined total of 3362 registered and 1691 total unique views, the webinars brought global insights to Australian audiences within weeks of the disaster

**TWO WEBINARS
3,362 REGISTERED
1,691 TOTAL VIEWS
19 NEW SUBSCRIBERS**

LA fires from a local and international perspective

Kelly Martin from Lasair Fire Consulting, a veteran firefighter who served as Chief of Fire and Aviation at Yosemite National Park, was on the LA fireground during the crisis. Her firsthand account of watching 'entire neighbourhoods vanish in a matter of hours' provided a visceral understanding of the disaster's speed and scale.

Prof David Bowman from the University of Tasmania contextualised the LA fires within global climate patterns, emphasising that these types of disasters represent 'a culmination of signals indicating that bushfire activity is increasing due to climate change.' He called for transformative thinking rather than simply returning to previous practices.

AFAC CEO Rob Webb connected the international experience to Australian realities, highlighting the progress made in fire warning systems and community messaging since past disasters, while emphasising the ongoing need for community engagement and collaboration.

The science behind the fire

A subsequent LA fires panel discussion featured on-the-ground researcher, Dr Faraz Hedayati alongside Dr Raphaele Bianchi (CSIRO), Joe Buffone (NEMA) and CEO Andrew Gissing created a dynamic exchange between the international research and Australian application.

The webinars' success provides a model for future post-disaster rapid knowledge-sharing initiatives. Most importantly, these events transformed distant international events into immediate local relevance.

"It doesn't mean that building materials don't matter, it means that heat exposure is so high structural density and collective fuel play a major role in what overwhelms building material. In order to get benefit from building materials, we need to remove and reduce exposure by spacing buildings in new developments out and removing connective fuel in existing developments so that they have a fighting chance."

Dr Faraz Hedayati, Institute for Business and Home Safety, North Carolina

Indigenous voices in land and emergency management at Gathering

Indigenous voices in land and emergency management at Gathering People from across Australia and overseas came together on the sacred sovereign lands of the Wadjabul Wia-bal peoples for the National Indigenous Disaster Resilience's Gathering in September 2024.

Supported by the Centre, the Lismore Gathering was an example everyone could learn from in holding a space that facilitates genuine sharing and connection to people and place. Accompanied by the sharing of knowledge and practice to move forward in a more hopeful, supportive, connected, reverent, and respectful way with Country and community. The three days were filled with deep listening, compassion and inspiration to act, change and do things better.

Indigenous Canadian perspectives in fire and land management

Indigenous Canadian wildfire stewardship, similarities and differences in the opportunities and barriers faced by Canadian and Australian First Nations people and the disproportionate impact of recent fire seasons on Indigenous communities were highlighted by visiting experts at an intimate event hosted by the Centre in Brisbane in October 2024.

Métis fire scientist and policy advisor, Dr Amy Cardinal Christianson (Indigenous Leadership Initiative) and Joe Gilchrist (Salish Fire Keepers Society), a cultural fire keeper in the interior region of British Columbia from the Secwepemc and Nlaka'pamux Nations, talked through Indigenous fire stewardship practices, wildfire evacuations and the enormous benefit of Indigenous-led wildland firefighting in Canada.

Research informed strategic advice

Strategic participation in a range of activities, events and initiatives during the reporting period ensured strong connection with end-users and visibility of the Centre, its research and impact.

Projects, findings and outcomes were highlighted through submissions to government reviews and policy advice. Centre staff and researchers were guest presenters at sector conferences, workshops and meetings, as well as events and communities of practice.

Participation in forums provides a strategic opportunity to showcase research projects, researchers and end-users, as well as highlight the research and utilisation themes that span projects, location and natural hazard type. Staff participation also supported relationship and partnership development with Participant and other organisations.

This section of the report highlights the breadth of engagement, events and opportunities undertaken by Centre staff and researchers to synthesise and share insights from the research programs.

Strategic review and policy advice

Throughout the year, stakeholders engaged with Centre staff for strategic, evidence-informed advice to shape key policies, including:

- Membership of the Independent Peer Review Panel for Flood Hazard Mitigation Methodology (NSW Reconstruction Authority).
- Participation in the National Disaster Risk Profile Expert Reference Group to develop national natural hazards risk profile.
- Participation in the National Disaster Ready Fund Assessment Panel to allocate funding under the Australian Government’s Disaster Ready Fund.
- Participation in the National Climate Change Risk Assessment.
- Presentation to Queensland Inspector General of Emergency Management staff in July 2024 during the 2023–2024 Severe Weather Season Review.
- Specialist input to the National Urban Policy for Australia (Department of Infrastructure, Transport, Regional Development, Communications and the Arts, July 2024).

Table 14: Strategic review and policy advice provided by the Centre

Organisation or group	Advice type	Centre contribution	Status
AFAC Research Committee	Executive	Member	Ongoing
AFAC Collaboration Groups (miscellaneous)	Executive	Advisory member	Ongoing
Australian Climate Service	Executive	Advisory on climate risk assessment	Ongoing
AFAC Research Strategy Group	Executive	Member	Ongoing
Australian Fire Danger Ratings System	Program Board Executive	Member	Ongoing
Australian Journal of Emergency Management Editorial Advisory Board Meeting	Executive	Observer	Ongoing
Australian–New Zealand Emergency Management Committee (ANZEMC)	Executive	Observer	Ongoing
NEMA National Disaster Risk Profile Expert Reference Group to develop national natural hazards risk profile	Executive	Member	Ongoing
NSW Nature-based Measures Working Group	Executive	Advisory member	Ongoing
NSW Rural Fire Service and Nature Conservation Council Hotspots Committee	Executive	Advisory member	Ongoing
Working groups for the NSW State Disaster Mitigation Plan	Executive	Advisory member	Ongoing
NEMA Exercise Convergence	Executive	Participation	Non-ongoing
NSEP high resolution rainfall extremes project advisory group meeting	Executive	Member	Ongoing
Queensland Fire Department	Executive	Advisory on flood safety	Ongoing

Research-informed policy

A key indicator of the Centre's research impact is the extent to which research outputs are cited within policies and other doctrine.

To date, the Centre and its predecessors has been mentioned in 239 policy documents related to topics on risk and emergency management.

239 POLICY DOCUMENT MENTIONS



Thought leadership

As Australia's natural hazards and disaster resilience thought leaders, the Centre is uniquely positioned to start and progress challenging and forward – thinking conversations about the future, informed by research and evidence.

During the reporting period, the Centre's thought leadership agenda continued to focus on meeting future challenges of a climate challenged Australia. Activities to create opportunities for the emergency management, disaster resilience and associated sectors to reflect on what this could mean and explore what could be to address short and longer-term opportunities for disaster risk reduction and safer communities were undertaken.

Continuing the *Be Ahead of Ready* disaster readiness conversation

Following the launch of the Centre's *Be Ahead of Ready* initiative in May 2024, numerous Participants requested support to further explore the initiative's concepts and facilitate discussion around how the thinking and principles can be applied to particular settings. During the reporting period to date, the following *Be Ahead of Ready* and research priorities workshops were co-hosted:

- Northern Territory Emergency Management Conference workshop, Darwin
- Victorian stakeholder workshop, Melbourne
- Executive Masterclass featuring *Be Ahead of Ready* principles, Adelaide.

"Natural Hazards Research Australia is changing our mindset not waiting to be affected by a disaster but getting ahead of the game. What could we be doing now that will save lives in the future? What legacy do we want to leave for the future?"

Rob Webb, CEO, AFAC

Darwin *Be Ahead of Ready* and AI workshop

In November 2024, the Centre hosted a session at the Northern Territory Emergency Management Symposium titled '*Be Ahead of Ready* – what does this mean for NT?' The session included a facilitated a group discussion on bold ideas for northern Australia with a particular focus on discussing how emergency management capability could be reimagined using the principles of *Be Ahead of Ready*. In addition, the Centre supported Dr Sue Keay to facilitate a hands-on workshop focusing on understanding the current demands of the emergency management workforce in the Northern Territory. Based on in-room discussion, Sue highlighted artificial intelligence opportunities that could address key capability demands in Northern Australia.

Victoria *Be Ahead of Ready* workshop

In March 2025, the Centre co-hosted a workshop with Emergency Management Victoria in Melbourne where participants discussed priorities for Victoria to address future natural hazards challenges through research and to *Be Ahead of Ready*. Attended by 40 personnel from the Centre's Victorian Participant organisations, the workshop was an opportunity for these organisations to showcase and exchange knowledge about key research to minimise duplication and reach a shared understanding of research gaps to inform future Victorian stakeholder research concept submissions.

New South Wales SES workshop

In December 2024, the New South Wales Government invited the Centre to facilitate a research prioritisation workshop with the New South Wales SES. Attended by 35 SES staff from all departments and regions, the workshop was also attended by representatives from the Bureau of Meteorology. During the session key issues previously identified by participants were refined, prioritising the more than 150 challenges to enable a program logic to be developed to ensure research submissions have the best chance of success and the research outcomes useful, useable and used.

Event presentations and facilitation

The following event presentations and facilitations have occurred in this reporting period:

- Natural Hazards Research Australia Executive Masterclass
- Northern Territory Emergency Management Symposium 2024
- Stakeholder forums aligned with Centre Board meetings in Queensland, Tasmania, New South Wales and the Australian Capital Territory
- LGAQ Disaster Management Conference 2025
- Western Australian Interagency Bushfire Operations Committee Research Subcommittee Meeting
- Floodplain Management Association 2025
- Emergency Media and Public Affairs Conference 2025
- Engineers Australia Risk Management Conference 2025
- Australian Reinsurance Pool Corporation Cyclone Seminar 2025
- Western Australia State Emergency Management Committee
- Western Australia Land Information System (WALIS) Council
- Presentation at the Recovery Leaders Forum
- Participation as a panellist for the NZ Natural Hazards and Resilience Platform Evaluation
- Presentation to the NSW State Emergency Management Committee
- Presentation to the NSW State Emergency Management Committee – Capability Sub-committee
- Presentation to the AFAC Council
- Presentation to the WA State Emergency Management Committee
- Guest Lecture at University of Western Sydney
- Guest Lecture at Methodist Ladies College
- Attendance at the Governor General's reception for the Fiona Wood Foundation
- Presentation to the Australian Tropical Cyclone Advisory Group
- Keynote to the Engineers Australia Risk Engineering Conference
- Presentation to the Victoria State Emergency Management Planning Committee
- Panellist at the Collaborative Research Australia Collaborate Innovate conference
- Presentation to the Western Australian Land Information System (WALIS) Council

Research groups, panels and event committee participation

Centre staff have been involved in the following groups, panels and committees in this reporting period:

- Participant in National Natural Hazards Risk Profile Expert Reference Group
- Participant in Australian Climate Change Risk Assessment review and stakeholder forum attendance
- Participant in Disaster Risk Reduction Working Group, Engineers Australia
- Member of Queensland Disaster Management Research Advisory Panel
- Member of Awards Committee, Queensland Division of Engineers Australia
- AFAC Collaboration Groups
- Queensland Disaster Research Alliance Stakeholder Network
- Program Committee, 2025 Australian Disaster Resilience Conference
- Steering Committee, Queensland IGEM Disaster Management Research Forum 2025
- Program Committee, AFAC 2025
- Program Committee, Disaster and Emergency Management Conference 2025
- Program Committee, Emergency Media and Public Affairs Conference 2025
- NSW Bushfire and Natural Hazards Research Centre Day 2025
- Steering Committee, Northern Australian Fire Managers Forum 2025
- Member of Victorian Emergency Services Foundation Learning Network
- Participant in Cooperative Research Australia CEO's Forum
- Member of Tasmanian SFMC Fire Management Practice to Research Working Group
- Editorial Committee for the Australian Journal of Emergency Management

Event participation

- Australian and New Zealand Emergency Management Committee
- Resilient Futures Investment Roundtable
- AFAC Council Meetings
- ARPC Stakeholder Forum
- Australian Local Government Association National General Assembly
- Western Australia Bushfire Conference
- Land Use Planning Roundtable hosted by Insurance Council of Australia
- Policy Roundtable on Indigenous disaster resilience
- National Preparedness Summit 2024 – Higher Risk Weather Season
- NIDR Gathering
- Global Nature Positive Summit
- Australian Climate Science Workshop
- Artificial Intelligence and Nature Thought Leadership Forum
- National Bushfire Intelligence Capability planning workshop
- NSW SES Research Forum
- Housing, Homelessness and Disaster Symposium
- Northern Australia Fire Managers Forum
- Joint Telco and Power Forums
- Western Australian Forest Management Plan Fire Research Collaboration workshop
- National Recovery Leaders Forum
- NSW National Parks and Wildlife Service Fire Managers Forum
- NSW Bushfire and Natural Hazards Research Symposium
- Tasmanian SFMC Fire Management Practice to Research Workshop
- Wildland Fire Canada Conference: Wildfire Community Impact Research Workshop.

Nature positive solutions for disaster risk reduction

In partnership with insurer Suncorp, the Centre launched the *Nature positive disaster risk reduction solutions* discussion paper in October 2025, the Centre's second hazard-specific thought leadership paper.

The paper considers ways to capitalise on the natural landscape to help Australian communities be safer, more resilient and sustainable in the face of more frequent and severe natural hazards.

Australia hosting the 2024 Global Nature Positive Summit in October was timely preparation for the discussion paper, roundtable and publication launch. Developed in consultation with local and international experts, the discussion paper highlights Australian-relevant international case studies that reduce the impact of flood, sea level rise, bushfire, extreme heat and other natural hazards.

The paper showcases Australian research and case studies that work with the natural environment, including First Nations cultural burning and fire management, floodplain restoration to manage flooding, rain gardens in yards and streets to reduce urban flooding, vegetation on urban roofs to absorb heat, coastal rehabilitation of mangroves, dunes and marshes and green fire breaks to manage bushfire risk.

More than 50 senior experts from government, research and industry attended a roundtable in Canberra on 10 September, including an opening address by Senator the Hon Jenny McAllister, Federal Minister for Emergency Management, and attended by members of parliament and senior policy advisors. Keynote speaker Amanda Sturgeon (CEO, Biomimicry Institute) spoke to the paper's actionable ideas and highlighted the importance of partnerships in delivering the required urgent and at-scale action.

The release of the Nature positive disaster risk reduction solutions discussion paper attracted widespread media coverage, including from 12-16 December 2024 in the following outlets:

ABC Northern Queensland, Tropical North Queensland, Far North Queensland, North West Queensland, Western Queensland, Capricornia, Wide Bay, Sunshine Coast and Southern Queensland Drive; ABC North Coast NSW News, ABC South East NSW Breakfast, ABC Newcastle, Upper Hunter, Central West, Western Plains, Riverina, Coffs Coast, Mid North Coast NSW, North Coast NSW and New England North West Mornings.



Appendix 1 Milestones

Progress against Biennial Research Plan 2024–25 milestones

Milestones	Agreed end date	Actual / anticipated end date	Current % complete	Progress comments – work undertaken and impact of any delay
Centre research priorities				
Biennial Research Plan 2025–27 drafted and endorsed by Centre Board	30 June 2025	30 June 2025	100%	
All funded research complies with the Centre's research data framework. Online data catalogue available, populated and utilised	30 June 2026	30 June 2026	85%	Firm to assist with data catalogue appointed.
Learning from disasters				
Outcomes, findings and insights from post-disaster research projects shared in a timely manner	30 June 2025	Ongoing	100%	Outcomes of Tropical Cyclone Alfred research shared promptly following the event
Engaging with other research initiatives				
The Centre engages with relevant national and international research initiatives	30 June 2025	Ongoing	100%	
Research portfolio				
October 2024 research project investment round complete and approved by the Centre's Board	31 December 2024	31 December 2024	100%	
April 2025 research project investment round complete and approved by the Centre's Board	30 June 2025	30 June 2025	100%	
Translation and implementation				
Hazard Notes published to translate research findings in an accessible format	30 June 2025	Ongoing	100%	
Establishment and initial evaluation of a Translation and Implementation Panels	30 June 2025	30 June 2025	100%	
Education program				
Complete post graduate scholarship rounds	30 June 2025	Ongoing	100%	
Award of at least one First Nations scholarship	30 June 2025	30 June 2025	90%	Delivery impacted by unexpected administrative requirements, resulting in brief delay.
Early Career Researcher program				
Early Career Researcher Fellowships awarded	30 June 2025	30 June 2025	100%	
Disaster Challenge completed	30 June 2025	31 December 2024	100%	

Milestones	Agreed end date	Actual / anticipated end date	Current % complete	Progress comments – work undertaken and impact of any delay
Research-skilled workforce				
Work placements awarded	30 June 2025	30 June 2025	100%	
Complete postgraduate symposium	30 June 2025	30 June 2025	100%	
Knowledge transfer				
Annual Natural Hazards Research Forum delivered	30 June 2025	30 June 2025	100%	
Regular series of research translation and engagement events delivered with high participation and positive feedback, for example, workshops and webinars	30 June 2025	30 June 2025	100%	

Appendix 2 List of projects

Completed projects

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Be Ahead of Ready E1-A6	Aither	Operational response and innovation; Communities and workforces of the future	Inspire bigger, bolder thinking across the disaster resilience sector. Identify big ideas to drive a resilient, safe and sustainable future.
Increasing disaster resilience – creating the next version of the Australian Disaster Resilience Index CR2024-01	University of New England	Resilient communities	Revised and updated Australian Disaster Resilience Index (ADRI 2) with additional datasets to inform key Commonwealth activities including NEMA's development of a national natural hazards risk assessment.
State of Natural Hazards Research in Australia E1-A1	Deloitte Australia	Evidence-informed policy, strategy and foresight	Understand extent of active natural hazards and disaster risk reduction, research investment in Australia across funding sources. Understand broad objectives of different research funding sources and the themes of investment. Understand capabilities of different research institutions and develop a list of active natural hazards and disaster risk reduction research projects nationally.
Analysis of inquiry recommendations on natural hazards and disaster risk reduction E1-A2	Meridian Urban	Learning from disasters	Identify key recurring themes, patterns and insights in natural hazards and disaster risk reduction to inform future policy development, emergency management strategies and risk mitigation efforts.
Community experiences of the 2022 Australian floods – Queensland and New South Wales PE-2022-01	Macquarie University, Queensland University of Technology, University of Southern Queensland	Learning from disasters; Situational awareness	In-depth understanding of the communities' lived experience before, during and following the February and March 2022 floods to assist in future planning and engagement
Flood contamination sampling and analysis – regional Victoria PE-2022-02	Environment Protection Authority Victoria	Learning from disasters; Sustainable, safe and healthy natural landscapes	Understand floodwater contamination risks to inform community engagement programs.
SES Fit for Task	Human Performance Science	Operational response and innovation; Communities and workforces of the future	Promote safety, health and wellbeing of SES members across Australia, reduce risk of injury while performing required tasks and build a culture of wellbeing and safety of SES members. Ensure SES members' ability to safely assist when deployed to support other states and territories during major emergencies.
Translation of observed and modelled extreme bushfire behaviours to improve fire prediction and fireground safety T1-A1	Bureau of Meteorology, Curio	Situational awareness; Learning from disasters	Increase situational awareness and fire ground safety through interoperable language and concepts/ shared understanding. Improve risk communication.
Predictions in public: understanding the design, communication and dissemination of predictive maps to the public – Phase 1 T1-A2	RMIT University, Queensland University of Technology, Deakin University, Swinburne University	Situational awareness; Resilient communities	Evidence-based principles informing a nationally consistent approach to the future design and communication of predictive bushfire and incident maps. Understand current levels of comprehension and use of maps for public information and warnings. Develop principles for the standardised use of predictive maps within the Australian Warning System.
Connecting Indigenous people and the emergency management sector – effective partnerships T1-A3	North Australian Indigenous Land and Sea Management Alliance	Communities and workforces of the future; Sustainable, safe and healthy natural landscapes	Strengthen Indigenous understanding and position on emergency management engagement in northern Australia. Joint statement of intent developed to share a stronger and better-informed foundation for future work practice and partnerships between Indigenous people and the emergency management sector.

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Cultural land management research and governance in south-east Australia T1-A4	Deakin University	Sustainable, safe and healthy natural landscapes; Resilient communities	Strengthen collaborative governance and research involving Indigenous land and fire managers and state, territory and local government agencies. Principles and protocols for cultural land management governance and research and the companion usage guide.
Community-led recovery: Evidence, dimensions, and supports for Community Recovery Committees T1-A5	University of Melbourne	Resilient communities; Communities and workforces of the future	Develop a shared understanding of the roles of Community Recovery Committees (CRCs). Test and validate the self-assessment tool built for CRCs that was developed in Phase 1. Measure the representativeness of community recovery committees' membership using a social network approach, to help inform future recovery policy.
Identifying water sources for aerial firefighting T1-A6	Frontier SI, Geoscience Australia	Operational response and innovation; Situational awareness	Prototype spatial product workflow accurately identifying locations of accessible water bodies. Prototype now in use by NAFC and GA to improve the accuracy of location data for aerial firefighting.
Research data management T1-P1	Frontier SI	Evidence-informed policy, strategy and foresight; Learning from disasters	Accessible and centralised research data from Centre and BNHCRC projects.
Awareness, education and communications for compound natural hazards T2-A1	Deakin University, University of Tasmania	Resilient communities; Operational response and innovation	Improve shared understanding of the threats posed by compound disasters. Inform community engagement programs and agency capacity to ensure the public understands compound disasters, associated risks and how to prepare for them. Demonstrate the need to provide integrated community engagement and warning systems to develop awareness of the risks associated with compound disasters. Enhance communications planning in the context of disaster recovery.
Sector partner engagement to enhance severe weather impact prediction T2-A6	Collaborative Consulting Co	Operational response and innovation; Situational awareness	Understand information needed by emergency management partners to support decision-making in preparing for and responding to severe weather, mitigating the impacts on communities.
What makes a good fire simulator? T3-A1	University of Melbourne	Situational awareness; Evidence-informed policy, strategy and foresight	Understand what makes a good fire simulator in Australia. Improve future fire simulators to enhance fire prediction and modelling.
Storing and sharing qualitative data T3-A2	Altometer	Evidence-informed policy, strategy and foresight; Learning from disasters	Strong foundation and clear pathways for the Centre and its researchers to implement the effective collection, use, curation and sharing (where feasible) of qualitative social research data.
Community risk assessment T3-A3	University of Sydney	Operational response and innovation; Communities and workforces of the future	Understand value of systematic approach to community-based risk using latest computational and risk modelling advancements. Inform future multi-hazard, compound and cascading community risk assessment approaches.
Healing Country through Wolgalu/Wiradjuri – led land management T4-A4b	University of Wollongong, Brungle-Tumut Local Aboriginal Land Council	Sustainable, safe and healthy natural landscapes; Evidence-informed policy, strategy and foresight	On-Country activities to revitalise and share cultural knowledge Develop resources that tell Wolgalu/Wiradjuri histories and knowledge of Country to better understand what Wolgalu/Wiradjuri Caring for Country looks like today.

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Best practice for tracking and responding to potentially traumatic event exposure T5-A4	University of Melbourne	Communities and workforces of the future; Evidence-informed policy, strategy and foresight	Enhance psychological health and safety of fire and emergency service workers through the effective use of best practices and tailored psychosocial risk management systems implemented by their agencies. Evaluate feasibility and benefits of Australian emergency services collaboration to develop new psychological wellbeing and safety risk management system.
Utilisation of transformative scenarios in a climate-challenged world T5-A6	Collaborative Consulting Co	Evidence-informed policy, strategy and foresight	Translate and utilise Transformative scenarios in a climate-challenged world resources with professional development modules and user-friendly train-the-trainer applications.
Streamlining SWIRLnet data acquisition, analysis, storage and dissemination procedures U1-A1	University of Queensland	Situational awareness	Streamline and automate collection and distribution of data, providing end-users with improved access to real-time information and a more efficient analysis process.
Fire ember transport U1-A3	Bureau of Meteorology	Operational response and innovation; Situational awareness	Software interface between the development version of Spark Operational and ember transport parameterisation model.
Detecting fire plumes with mobile radar U1-A6	Bureau of Meteorology	Situational awareness; Operational response and innovation	Operating procedures and approaches for the safe location and operation of a mobile radar. Requirements for robust operational radar deployment practices. Strengthening researcher and practitioner networks through cross-agency and cross-jurisdiction collaboration.
Australian emergency law blog U1-A8	Dr Michael Eburn	Evidence-informed policy, strategy and foresight; Learning from disasters	Support Australian Emergency Law communications.
Maintenance of the Australian Flammability Monitoring System U1-A9	Australian National University	Operational response and innovation	Clearer picture of immediate fire risks using satellite data to collect information on live moisture content in trees, shrubs and grass. Information helps fire managers' prescribed burning efforts and prepositioning firefighting resources.
International Assisted Relocation Community of Practice INT-007	Sentientco	Evidence-informed policy, strategy and foresight	1. Form connections for group members as an emerging community of practice 2. Build further clarity on the expected value of this community of practice 3. Explore contexts, common challenges and develop future agenda ideas together
Cyclone Alfred Building Damage Assessment PE-2025-01	James Cook University	Understanding and mitigating risk	Assess structural damage and failure mechanisms in buildings and infrastructure impacted by Cyclone Alfred. Document wind speeds, water ingress, and secondary damage caused by debris. Provide data to support refinements in wind loading codes and building design standards.

Current projects

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Fire coalescence and mass spotfire dynamics	University of New South Wales	Operational response and innovation	Understand role of vorticity in driving lateral spread and other modes of dynamic fire propagation in the escalation of bushfires to extreme levels.
Community experiences of the 2022 Australian floods – Tasmania PE-2022-01	University of Tasmania, Macquarie University	Learning from disasters; Situational awareness	Improve flood warning systems and community disaster preparedness programs.
Community experiences of the 2022 Australian floods – South Australia, Victoria and south-western New South Wales PE-2022-03	RMIT University, Macquarie University, Monash University	Learning from disasters; Situational awareness	Improve future community flood planning, preparedness and engagement, with a focus on First Nations and culturally and linguistically diverse people.
Predictions in public: understanding the design, communication and dissemination of predictive maps to the public – Phase 2 and 3 T1-A2	RMIT, University of Technology, Deakin	Situational awareness, Resilient communities	<p>The research will:</p> <ul style="list-style-type: none"> → understand how members of the public use, comprehend, perceive, and take-action in response to existing predictive map designs. → develop a set of evidence-based principles for the design, dissemination, risk communication, and community education and engagement of predictive maps for use by the AFAC PSG and AFAC WG. → develop a robust monitoring, evaluation, and learning framework.
Bushfire information database – scoping study T1-E1	University of Sydney	Evidence-informed policy, strategy and foresight; Learning from disasters	Evidence base and recommendations to support the development of a National Bushfire Information Database.
Understanding the resilience of lifelines for regional and remote communities T1-E2	RMIT University	Resilient communities; Resilient built environment	<p>Increase knowledge about Australia's lifeline characteristics, interconnections, vulnerabilities, strengths, needs and opportunities for improving resilience, of relevance to practitioners and researchers.</p> <p>Enhance understanding of the primary research needs and opportunities around lifeline resilience in Australia to inform future work at the Centre and other organisations strategically.</p>
Flash flooding case studies to improve predictions and the communication of uncertainty T2-A2	Bureau of Meteorology	Learning from disasters; Situational awareness	Increase understanding of how to prepare systems, people, public messaging and warnings to reduce the impact of flash floods and enhance community resilience.
Integrated solutions for bushfire-adaptive homes T2-A3	CSIRO	Resilient built environment; Resilient communities	Increase understanding of effectiveness and feasibility of integrated physical and social strategies to improve residential property protection from the effects of fire.
Enhancing decision making in emergency management T2-A4	CQUniversity	Operational response and innovation; Communities and workforces of the future	<p>Enhance effective and appropriate crisis decision making in all levels of the Australian and New Zealand emergency management sectors.</p> <p>Well-designed and implemented training and learning products building on existing programs and tools.</p> <p>National approach to decision making across services and multi-agency training to support cross-agency decision making.</p>
Bushfire risk at the rural-urban interface T2-A5	University of Tasmania	Operational response and innovation; Resilient communities	<p>Understand ways to engender and support community – led/centred action in the rural-urban interface to reduce risks in and around asset protection zones.</p> <p>Identify key rural-urban interface site and vegetation characteristics affecting bushfire behaviour, including garden plant flammability and garden arrangement/landscaping.</p> <p>Develop informed fire behaviour modelling capturing interface and garden fuels, fire spread and ember production in rural-urban interface zones.</p> <p>Identify and evaluate potential mitigation measures for reducing and stopping fire spread into the rural-urban interface.</p>

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Modelling impacts of natural hazards on interconnected infrastructure networks T2-A7	University of Queensland	Resilient built environment	Improve estimation of direct infrastructure damage costs and assess financial benefit of infrastructure betterment to current and future climates. Develop the capability to estimate infrastructure restoration timeframes to inform emergency management planning and risk assessment.
Natural hazards and resilience in complex urban systems T2-A9	RMIT University	Resilient communities; Resilient built environment	Understand impact of complex natural hazard-related disasters on communities in major Australian urban areas and how climate change and rapid urbanisation may impact these disasters and recovery over time.
Fire case studies T3-A4	Bureau of Meteorology	Learning from disasters; Situational awareness	Systematise and consolidate existing fire case study methodology to enable quicker results in future. Identify learnings to enable fire agencies to prepare and respond to future bushfires.
Identifying and defining landscape dryness thresholds for fires T4-A1	University of Melbourne	Operational response and innovation	Metrics identifying bushfire risk, guiding suppression tactics and supporting prescribed burning operations. Improved accuracy of fire simulation systems and fire danger rating systems, added value to seasonal forecasts and better interpretation of landscape condition monitoring systems, leading to enhanced community safety, better preparedness and reduced fire impacts.
Capturing uncertainty in bushfire spread T4-A2	University of Wollongong	Situational awareness	Bayesian ROS model for forest (and grass) fire, providing fire behaviour analysts an additional, powerful tool to understand expected ROS probabilistically (which currently does not exist). ROS database regularly updated and shared with fire agencies and researchers. Fast access to the history of ROS available to fire behaviour analysts to understand how a particular fire sits in the context of previous fires.
Long-range flood outlook for strategic preparedness T4-A3	Bureau of Meteorology	Operational response and innovation	Suite of national probabilistic long-range flood outlook and inundation products as a proof-of-concept for evaluation and testing.
Operationalising Aboriginal land and sea management T4-A4a	Department of Climate Change, Energy, the Environment and Water NSW	Sustainable, safe and healthy natural landscapes; Evidence-informed policy, strategy and foresight	Foundational understanding needed to implement Aboriginal land and sea management. Foundational understanding to support government implementation and development of accompanying research program to document learning and problem solving in line with living lab model.
Why fly? How do we know that aerial operations are effective and efficient? T4-A5	University of Wollongong, CSIRO	Operational response and innovation	Understand and build existing user profile of Australia's aviation fleet across different landscapes. Understand the profile of the purposes for which the fleet is deployed and how effective that purpose has been. Apply a statistical and geospatial analysis over the data contained within the Arena database, where over 10 years of data can be analysed.
Evaluating the Resilient Homes Fund T4-A6	University of Queensland	Resilient built environment; Evidence-informed policy, strategy and foresight	Measure extent of resilient reconstruction incentivisation programs' in reducing home flood risk reduction increase insurability through the following two questions: → How does a resilient reconstruction program enhance the physical and financial resilience of homeowners and communities? → What are the key components of the successful implementation of a resilient reconstruction program?
Developing an integrated predictive capability for extreme rainfall and inundation T4-A7	Bureau of Meteorology	Operational response and innovation	Prototype predictive capability in collaboration with stakeholders and supported by social scientists to enhance forecasts of extreme rainfall, inundation and risk communication for emergency management.
Safety of alternative and renewable energy technologies T4-A8	University of Queensland	Resilient built environment; Operational response and innovation	Understand stationary Battery Energy Storage Systems (BESS) risks related to fire propagation due to external factors. Prevent injuries to people and minimisation of damage to buildings, infrastructure and the environment.

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Emergency management volunteering: more than just words T4-A9	Victoria University	Communities and workforces of the future	Blueprint of tangible and actionable guidance for volunteer – involving organisations in the emergency management sector. Improve sustainability of emergency management volunteering through sector changes.
Colonial load and cultural conflict T5-A1	Monash University	Communities and workforces of the future; Evidence-informed policy, strategy and foresight	Identify systemic and behavioral drivers of colonial load and cultural conflict affecting First Nations staff and volunteers and develop recommendations for interventions based on identified gaps to enhance the participation of First Nations people.
Foundations in Indigenous disaster resilience T5-A2	Monash University	Resilient communities; Communities and workforces of the future	Evidence-based policy framework to guide Indigenous disaster resilience policy and practice across Australia. Build trusting relationships between Indigenous communities and peak organisations. Indigenous disaster resilience community of practice. Increase confidence in Indigenous communities to respond to disasters.
Heatwave resilience and impacts T5-A3	The University of Adelaide	Resilient communities; Situational awareness	Improve communication of heatwave risk to agencies, the public and the media. Understanding of the full costs and impacts of extreme heat events to allow agencies and health departments to better plan, prepare and respond to heat events, as well as inform possible future business cases for investment in heatwave resilience. Understand extreme heat impacts associated with electricity disruption to improve planning for the future adaptation of infrastructure.
Understanding intangible flood costs and impacts T5-A5a	RMIT University	Resilient communities; Learning from disasters	Understand true costs of flooding, including short- and longer-term social impacts. Improve decision making and case for flood mitigation investment through enhanced knowledge of the true extent of flood costs.
Communicating flood risk T5-A5b	Queensland University of Technology	Resilient built environment; Resilient communities	Identify improved methods of communicating flood risk to inform decisions community members make on a floodplain. Understand the challenges of communicating flood risk to communities.
Effectiveness of land use planning flooding controls on buildings T5-A5c	Meridian Urban	Resilient communities; Learning from disasters	Identify effectiveness of land-use planning flooding controls on buildings impacted by the 2020, 2021 and 2022 NSW floods. Improve community resilience via land use planning.
Evaluating and monitoring for impact: developing a framework for risk prevention programs T5-A8	Victoria University	Operational response and innovation	Inform the monitoring and evaluation of community education programs in the emergency services sector. Enhance the evaluation of education programs across the sector, contributing to the development of best practices through documented learnings.
Conserving and reconnecting floodplains to mitigate flood risk T6-A1	Australian National University	Sustainable, safe and healthy natural landscapes	Address key knowledge gaps towards implementing nature-based flood risk mitigation strategies in Australia. Increase biodiversity and improving water quality and community wellbeing.
Insights into temporary and emergency accommodation T6-A2	Monash University	Resilient built environment	Guide design and implementation of temporary housing from research and resources developed.
Hazard workshops for evacuation modelling T6-A3	CSIRO/ Collaborative Consulting Co	Operational response and innovation	National roadmap for evacuation modelling design and development. Improve evacuation decisions and support tools.
Support integration of Recovery Capitals in service plans for communities with different levels of social disruption T6-A4	University of Melbourne	Resilient communities	Utilise Community Disaster Content Matrix frameworks to understand the extent of exposure to disaster-driven social disruptions, and Recovery Capital-related support needs of communities.

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Multi-hazard public information and warning platforms for the future T7-A1	Queensland University of Technology	Situational awareness	<p>Improve national capability for public information and warnings.</p> <p>Emergency agencies understand communities' hazard and emergency communication needs, preferences and capabilities.</p> <p>Improve reach of public information and warnings.</p> <p>Strengthen public trust in emergency agencies and their authority to issue public information and warnings.</p>
Predicting prescribed burning and low intensity forest fire behaviour T7-A2	CSIRO	Operational response and innovation	<p>Quantification/model enabling accurate prediction of the full range of forest fire behaviour.</p> <p>Improve operational response, firefighter safety, understanding of risk and situational awareness, mitigating and improving community safety and ensuring future workforce have fit-for-purpose tools for operational and prescribed burning decisions.</p>
Fire mosaics in landscape fire planning T7-A3	Charles Sturt University	Sustainable, safe and healthy natural landscapes	<p>Shared understanding of the objectives of mosaic burning.</p> <p>Develop information and tools to assist in planning, implementing and assessing fire mosaics.</p>
Managing earthquake risk: unreinforced masonry buildings database T7-A4	Queensland University of Technology	Situational awareness	<p>Reduce unreinforced masonry building risk posed to communities during an earthquake.</p>
Measuring success for fire and rescue services T7-A5	Not yet awarded	Operational response and innovation	<p>Support emergency response agencies to optimise policy and regulatory framework and streamline governance, plans and efforts, with a focus on fire and rescue services.</p> <p>Relevant, measurable meaningful measures that effectively demonstrate the value of the services delivered to the community.</p>
Assisted relocations after flood T7-A6	Not yet awarded	Evidence-informed policy, strategy and foresight	<p>Build disaster management capability by identifying lessons learnt from existing large-scale assisted relocation programs.</p>
Managing smoke impacts on firefighter eye health T7-A7	University of New South Wales	Communities and workforces of the future	<p>Improve safety of firefighters on duty.</p> <p>Reduce smoke-related eye discomfort for firefighters.</p> <p>Improve readiness and recovery of workforce during bushfire disasters and improved confidence of the workforce with possibly greater retention.</p>
Understanding the resilience of Australia's Energy Networks to storms – severe convective wind impacts T7-A8	University of Queensland	Evidence-informed policy, strategy and foresight	<p>Increase knowledge of Australia's lifeline characteristics, interconnections, vulnerabilities, strengths, needs and opportunities for improving resilience, of relevance to practitioners and researchers.</p> <p>Connection and conversations between professionals in diverse sectors and areas about their shared role within and reliance upon lifelines, improving resilience literacy and enhancing the potential for collaborative solutions.</p>
A national framework and toolkit for multicultural inclusion in emergencies T8-A1	Not yet awarded	Resilient communities	<p>Improve outcomes for multicultural communities during disasters.</p>
Healing Country through Wolgalu/Wiradjuri-led cultural land management T8-A2	University of Wollongong	Sustainable, safe and healthy natural landscapes; Evidence-informed policy, strategy and foresight	<p>Build resilient people and landscapes through rekindling and strengthening Wolgalu/Wiradjuri connections to Country, cultural knowledge and inter-generational knowledge exchange.</p>
Managing the risk of heat stress for first responders: Understanding the role of diverse heat sources and environment T8-A3	Not yet awarded	Communities and workforces of the future	<p>Understand heat stress experienced by first responders and empower stakeholders with comprehensive knowledge to reduce the risk of heat stress.</p>
Remote sensing of grass condition T8-A4	RMIT University	Situational awareness	<p>National satellite-derived model to detect changes in grass fuel conditions in crops and pastures.</p> <p>Improve agencies' fire danger ratings and warning messaging.</p>

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
Multi-hazard resilient buildings T8-A5	James Cook University	Resilient built environment	Identify gaps in multi-hazard building standards. Create best practice building outcomes, elements and testing.
First Nations women, cultural fire knowledge, wellbeing and memory T8-A6	Monash University	Resilient communities	Improve understanding of how gathering and sharing cultural burning knowledge impacts First Nations women and explore culturally protective factors in building disaster resilience.
Unlocking risk: Enhancing hazard risk assessment through historical archival reanalysis T8-A7	University of Tasmania	Learning from disasters	Improve the way historical hazards are characterised, incorporating First Nations knowledge to enhance the archives of these historical events, making data more accessible for researchers, emergency managers and the public.
Understanding the effectiveness of current communication mediums and messaging used to communicate information on planning, preparing/ responding and recovering from an emergency event to remote First Nations communities T8-A8	Not yet awarded	Resilient communities	Provide evidence-based data to inform fit-for-purpose future communication strategies and messaging in remote First Nations communities to enhance safety and resilience.
Quantifying and predicting bushfire risk following large-scale, drought-induced vegetation die-off T8-A9	Not yet awarded	Evidence-informed policy, strategy and foresight	Quantify fuel characteristics of different plant types affected by vegetation die-off across southwestern Australia to calculate potential fire behaviour.
Schools in Fire Country U1-A2	Leadrrr	Communities and workforces of the future	Community-centred, place-based participatory bushfire disaster risk reduction program for upper primary school students. Quality, research-backed resources and localised support to significantly enhance student and teacher contributions to bushfire risk management.
Cyclone Alfred Social Media Analytics PE-2025-02	University of Melbourne	Understanding and mitigating risk	This study aims to explore the community's experiences of Tropical Cyclone Alfred through social media analytics. The research analyses publicly available posts and discussions on platforms such as Twitter, Facebook and Instagram.
National SES Fit-for-Role Assessment Review – Phase 1 T9-A1	Not yet awarded	Operational Response and Innovation	This project aims to revisit the task analysis and assessment design for the three skill sets and 1 assessment, with the same research methodology, rigour and independence as utilised in the initial research. Revisiting the task analysis of the 3 identified skills sets, will provide updated fitness assessments that remain reflective of the roles and tasks of the SES volunteer nationally. Further providing credibility and currency to an important National physical fitness framework that continues to be actively applied in SES agencies across the country.
Understanding tsunami risk to Australia from volcanic sources T9-A2	Not yet awarded	Situational Awareness	To develop a database of scenarios to assess the onshore tsunami risk from volcanoes in the South-West region by leveraging current research led by GNS New Zealand and ERI Japan. These scenarios would describe the source, estimate their likelihood, simulate inundation, and determine arrival times along the Australian coast. It will be guided by ATAG to ensure national consistency and alignment with strategic priorities. The work will be delivered in phases, starting with scenario development and risk ranking, followed by detailed inundation modelling.
Fire Plumes in the Atmospheric Boundary Layer T9-A3	Not yet awarded	Operational Response and Innovation	This project aims to develop a forecasting tool that predicts how the lower atmosphere influences fire plume behaviour, helping to better understand and anticipate fire spread and intensity across Australia.
Improving the accuracy of the fire behaviour metric “fireline intensity” for Australian fuels T9-A4	Not yet awarded	Evidence-informed policy, strategy and foresight	This project aims to improve the accuracy of the fire-line intensity metric used in fire behaviour forecasting by better understanding how different Australian fuel types burn under varying conditions.
Floodwater contaminants and effective mitigation techniques T9-A5	Not yet awarded	Learning from Disasters	This project aims to improve the safety of emergency responders and the public by identifying harmful contaminants in floodwaters, understanding the health risks of exposure and developing effective, evidence-based mitigation strategies.

Project name and code	Research provider	Research theme/s	Summarised outcomes – targeted or completed
The role of AI in translating emergency warnings for CALD communities T9-A6	Not yet awarded	Resilient communities	This project will explore how artificial intelligence (AI) can support the translation of emergency warnings for culturally and linguistically diverse (CALD) communities. It will examine where AI adds value, its limitations and how those can be addressed through human oversight or complementary processes. The project aims to understand how translation quality affects community comprehension and response during emergencies.
Community Messaging – timing and frequency T9-A7	Not yet awarded	Communities and workforces of the future	This project aims to create clear guidelines on when and how often to share flood information and warnings with the public during the response phase of an operation, especially just before flooding occurs.
Risk perception and behavioural tendencies towards evacuation (Mid North Coast) PE-2025-03	University of Melbourne, Macquarie University		This project investigates the psychological, social, and perceptual factors influencing critical decisions and implications to agencies around residents choosing not to evacuate.
Exploring Community Experiences of Flood Warnings and Evacuation Responses during 2025 Mid-North Coast Floods – Social media analysis PE-2025-04a	Not yet awarded		This study will explore behaviours and experiences of impacted residents in particular regarding warnings and evacuation through social media analysis of Facebook, Instagram, TikTok, Reddit, Twitter and Snap Chat.
Chatbot feasibility study	Not yet awarded		This project is aiming to assess the feasibility of integrating a Large Language Model (LLM) powered chatbot, using Retrieval-Augmented Generation (RAG) to enhance research-project related information accessibility across the Centre.
Data Catalogue	Not yet awarded		The Centre is seeking to develop an Australian research-centred Metadata Profile of DCAT v3 Data Catalogue to facilitate finding, accessing, integrating and reusing Research Data Assets and a limited subset of Company Data Assets owned by the Centre. This includes documentation, demonstration and testing of the deliverables.

Appendix 3 Research outputs

New technologies and systems

1. Knowledge Modules (2025) *Extreme Bushfire Behaviour modules* **T1-A1**
2. Knowledge Modules (in-press) *Utilisation of Transformative Scenarios in a climate challenged world* **T5-A6**

Academic publications

List includes internal project code, impact factor (IF) and student names are in bold.

Published journal articles

1. Bearman C, Hayes P, McLennan J, Penney G, Butler P C and Flin R (2024) 'The challenges of decision-making in emergency management, the cognitive aids people use and the decision-making training they receive', *The Australian Journal of Emergency Management* – October Edition, 39(4), 10–12 (Introductory Article). **T2-A4**
 2. Begg C, Gardner A, Griffin A, Dootson P, Kuligowski E and Neale T (2024) 'The challenges of research utilisation and the risks of collaborative research', *The Australian Journal of Emergency Management*, 39, 4, 90–92, doi:10.3316/informit.T2024120900019601662657260. **T1-A2b**
 3. Bird D, Wright L and Sharples D (2025) 'Storing and sharing qualitative social data', *Australian Journal of Emergency Management*, 40, 1, 75–78, <https://knowledge.aidr.org.au/resources/ajem-january-2025-storing-and-sharing-qualitative-social-data/>. **T3-A2**
 4. Butler P C, Flin R, Bearman C, Hayes P, Penney G and McLennan J (2024) 'Emergency management decision-making in a changing world: 3 key challenges', *The Australian Journal of Emergency Management* – October Edition, 39(4), 23–32, doi:10.47389/39.4.23 (IF 1.2). **T2-A4**
 5. Campbell S L, Williamson G J, Johnstone F H and Bowman D M J S (2024) 'Social and health factors influence self-reported evacuation intentions in the wildfire-prone island of Tasmania, Australia', *International Journal of Disaster Risk Reduction*, 11, doi:10.1016/j.ijdrr.2024.104712. **T2-A4**
 6. McLennan J, Hayes P, Bearman C, Penney G, Butler P C and Flin R (2024) 'Training to improve emergency management decision-making: what the research literature tells us', *The Australian Journal of Emergency Management* – October Edition, 39(4), 33–45, doi:10.47389/39.4.33 (IF 1.2). **T2-A4**
 7. Miller G, Neale T, Griffin A, Dootson P, Begg C and Gardner A (2025) 'Putting predictions in public: professional perspectives on the risks and benefits of changing wildfire warning systems', *Environmental Hazards*, doi:10.1080/17477891.2025.2467634. **T1-A2b**
 8. Morrison R, Kuligowski E, Dootson P, Griffin A, L, Perry P, Papedis G, Begg C and Gardner A (2024) 'Understanding the challenges in bushfire map use and effective decision-making amongst the Australian public', *International Journal of Wildland Fire*, 33(10), doi:10.1071/WF24071 (IF 2.9). **T1-A2b**
 9. Nemeth N, Johnson M S, Mocatta G and Hawley E (2024) 'Communicational responses for compound natural hazards: A systematic review', *International Journal of Disaster Risk Reduction*, 105041, doi:10.1016/j.ijdrr.2024.105041 (IF 4.2). **T2-A1**
 10. Ondei S, Price O F and Bowman D M (2024) 'Garden design can reduce wildfire risk and drive more sustainable co – existence with wildfire', *Nature. npj | Natural Hazards*, 1(1), 18, doi:10.1038/s44304-024-00012-z. **T2-A5**
 11. Penney G, Bearman C, Hayes P, McLennan J, Butler P C and Flin R (2024) 'A review of cognitive aids and their application to emergency management in Australia', *The Australian Journal of Emergency Management* – October Edition, 39(4), 13–22, doi:10.47389/39.4.13 (IF 1.2). **T2-A4**
 12. Saaristo M, Johnstone C P, Lewis P, Sharp S, Chaston T, Hoak M, Leahy P, Cottam D, Noble L, Leeder J and Taylor M P (2024) 'Spatial and temporal dynamics of chemical and microbial contamination in nonurban floodwaters', *Environmental Science and Technology*, 58, 21411–21422, doi:10.1021/acs.est.4c03875. **PE-2022-02**
 13. Slater L (2024) 'Unforgetting: The Yarri and Jacky Jacky Memorial at Gundagai', *Journal of Australian Studies*, 48, 4, 438–451, doi:10.1080/14443058.2024.2388582. **T4-A4b**
- ### Postgraduate Research Scholars
14. Atkinson S and Lee J Y (2025) 'Social media: Connecting and sharing in a bushfire crisis', *Media International Australia*, 194(1), 88–101, doi:10.1177/1329878X231163367 (IF 1.5).
 15. Davis B J and Reid A (2025) 'Relational Symmetries of Disaster Resilience Explored Through the Sendai Framework's Guiding Principles', *International Journal of Disaster Risk Science*. 16, 128–138, doi:1007/s13753-024-00611-4 (IF 4).
 16. Isaac F, Toukhsati S R, Klein B, Di Benedetto D and Kennedy G (2024) 'Differences in anxiety, insomnia, and trauma symptoms in wildfire survivors from Australia, Canada and United States of America', *International Journal of Environmental Research and Public Health*, 21(1), 38, doi:10.3390/ijerph21010038 (IF 0.8).
 17. Isaac F, Klein B, Nguyen H, Watson S and Kennedy G A (2025) 'Digital Cognitive Behavioral Therapy-Based Treatment for Insomnia, Nightmares, and Posttraumatic Stress Disorder Symptoms in Survivors of Wildfires: Pilot Randomized Feasibility Trial', *JMIR Human Factors*, 12, e65228, doi:10.2196/65228 (IF 3).
 18. Jaiswal S, Jalbert I, Olsen N, Burnett A and Golebiowski B (2024) 'Blinded by smoke: Wildfire smoke exposure and eye irritation in Australian wildland firefighters', *The Ocular Surface*, 34, 381–391, doi:10.1016/j.jtos.2024.09.001.
 19. Leppold C, Morrice H, Brady K, Reifels L, Abeyasinghe S, Quinn P and Gibbs L (2025) 'Recovery work in cascading and compounding disasters: A qualitative study of community recovery workers in Australia', *International Journal of Disaster Risk Reduction*, 116, 105152, doi:10.1016/j.ijdrr.2024.105152 (IF 4.5).
 20. Padamsey K, Liebenberg A, Wallace R and Oosthuizen J (2024) 'Characterising the Chemical Composition of Bushfire Smoke and Implications for Firefighter Exposure in Western Australia', *Fire*, (2571–6255), 7(11), doi: 10.3390/fire7110388 (IF 0.6).
 21. Padamsey K, Wallace R, Liebenberg A, Cross M and Oosthuizen J (2024) 'Fighting fire and fumes: risk awareness and protective practices among Western Australian firefighters', *International Journal of Wildland Fire*, 33(4), doi:10.1071/WF23147 (IF 0.8).
 22. Padamsey K, Liebenberg A, Wallace R and Oosthuizen J (2024) 'Preliminary Assessment of Tunic Off-Gassing after Wildland Firefighting Exposure', *Fire*, 7(9), 321, doi:10.3390/fire7090321 (IF 0.6).
 23. Padamsey K, Liebenberg A, Wallace R and Oosthuizen J (2025) 'Exposures of Western Australian Wildland Firefighters: Insights from Real-Time Monitoring', *Fire*, 8(3), 98, doi:10.3390/fire8030098 (IF 3).
 24. Page Jeffery C, Atkinson S and Graham C (2025) 'Using the story completion method to explore Australian parent and child responses to online risk', *New Media and Society*, 27(4), 2212–2229, doi:10.1177/14614448231206458 (IF 4).
 25. Rogers N J, Adams V M and Byrne J A (2024) 'Agenda-setting and policy leadership for municipal climate change adaptation', *Environmental Science and Policy*, 161, 103869, doi:10.1016/j.envsci.2024.103869 (IF 1.6).
 26. Rogers N J, Adams V M and Byrne J A (2024) 'Moving beyond the plan: Exploring the opportunities to accelerate the implementation of municipal climate change adaptation policies and plans', *Environmental Policy and Governance*, doi:10.1002/eet.2142 (IF 1.2).
 27. Ryan R, Thomas Z, Simkovic I, Dlapa P, Worthy M, Wasson, R, Bradstock, Mooney S, Haynes K and Dosseto A (2024) 'Assessing changes in high-intensity fire events in south-eastern Australia using Fourier Transform Infra-red (FTIR) spectroscopy', *International Journal of Wildland Fire*, 33(9), doi:10.1071/WF24064 (IF 0.8).
 28. Quinn P, Gallagher C, Curato N, Bowen K, Gibbs L (2025) 'What should we do about staff air travel emissions? Crowdsourcing consensus and understanding division within an Australian university', *Transportation Research, Part D: Transport and Environment*, doi:10.2139/ssrn.5010366.

29. **Rogers N J**, Adams V M and Byrne J A (2025) 'Moving beyond the plan: Exploring the opportunities to accelerate the implementation of municipal climate change adaptation policies and plans', *Environmental Policy and Governance*, 35(2), 276–291, doi:10.1002/eet.2142 (IF 4).
30. **Ryan R**, Dosseto A, Dlapa P, Thomas Z, Simkovic I, Mooney S and Bradstock R (2025) 'Using Fourier Transform Infrared spectroscopy to produce high-resolution centennial records of past high-intensity fires from organic-rich sediment deposits', *International Journal of Wildland Fire*, 34(1), doi:10.1071/WF23175 (IF 3).
31. **Simmonds K A**, Peacock R J, Trouvé R, Nitschke C R and Baker P J (2025) 'Half a century of demographic responses of Nothofagus cool temperate rainforests to disturbance', *Forest Ecosystems*, 100308, doi:10.1016/j.fecs.2025.100308 (IF 4).
32. Sothearith Y, Appiah K S, Sophea C, **Smith J**, Samal S, Motobayashi T and Fujii Y (2024) 'Influence of – Ionone in the Phytotoxicity of the Rhizome of Iris pallida Lam', *Plants*, 13(2), 326, doi:10.3390/plants13020326 (IF 0.8).
33. **Singh H** and Srivastava S K (2024) 'From Firestick to Satellites: Technological Advancement and Indigenous Cultural Practice in Managing Forest Fires in Australia', *The Historic Environment: Policy & Practice*, 1–24, doi:10.1080/17567505.2024.2425246.
34. Woodland S, Hassall L and **Kennedy-Borissow A** (2024) 'Youth theatre and the climate crisis in Australia: the role of 'unmediated liveness' in performing recovery, resistance, and survival', *Research in Drama Education: The Journal of Applied Theatre and Performance*, 29(2), 382–391, doi:10.1080/13569783.2024.2312184.

Book chapter

41. **Kennedy-Borissow A** (2024) *How 'Creative Recovery' Stimulates a Culture of Democracy: Case Studies of Post-Disaster Creativity in Rural Australia*, In *Democracy as Creative Practice* (pp. 49–62). Routledge.

Other outputs

Reports

1. Bearman C et al (June 2025) *The current state and future needs of decision making: knowledge, practice, tools and training options*. **T4-A5**
2. Boughton G, Henderson D and Harper B. (May 2025) *From storm to study: Insights on resilience from Tropical Cyclone Alfred*. **PE-2025-01**
3. Boughton, G, Henderson, D. and Harper, B. (2025) *TC Alfred, southeast Queensland and northeast NSW Damage to buildings*. Technical Report: JCU website. **PE-2025-01**
4. Dootson P (2024) *Current findings of the project and what research is planned going forward*. Emergency Management Victoria request. **T1-A2b**
5. Dootson P et al. (January 2025) *Predictions in public: understanding the design, communication and dissemination of predictive maps to the public – Work Package 5: First national community survey*. **T1-A2b**
6. Dootson P et al. (February 2025) *Predictions in public: understanding the design, communication and dissemination of fire spread prediction maps to the public – Work Package 8: Focus Groups*. **T1-A2b**
7. Dootson P et al. (May 2025) *Predictions in public: understanding the design, communication and dissemination of predictive maps to the public – Work package 9: national survey*. **T1-A2b**
8. Griffin A et al. (June 2025) *Predictions in Public: Understanding the design, communication, and dissemination of predictive maps to the public – Work Package 7 Development of fire prediction map concepts*. **T1-A2b**
9. Kuligowski E et al (22 July 2024) *Community comprehension, perception and use of maps during bushfires*, Hazard Note 5. **T1-A2b**

10. Kuligowski E et al. (January 2025) *Predictions in public: using qualitative data to understand the design, communication and dissemination of predictive maps to the public – Work Package 4: Community perceptions and understanding of incident and predictive maps*. **T1-A2b**
11. Jarzabkowski P, Meissner K, Taylor N, Riordan T and Gallagher R. (January 2025) *Resilient housing policies: A framework for evaluation*. **T4-A6**
12. Jarzabkowski P, Meissner K, Taylor N, Riordan T and Gallagher R. (April 2025) *Resilient housing policies: A framework for evaluation*. Hazard Note. **T4-A6**
13. Pulcinski M (March 2025) *Review of aerial suppression effectiveness research literature*. **T4-A5**
14. Naderpajouh, M. et al. (2024) *Community Risk Assessment: Connecting technical knowledge with local and Indigenous knowledge*. Project Report, 13 August 2024 **T3-A3**
15. Archer R, Hunter B, Yanner Snr M, Yanner Jnr M, Amini-Yanner R, Anderson K, James G, Ford A, Pearse M (2024) *Connecting Indigenous people and the emergency management sector – pathways to effective partnerships*. Project Report. 13 November 2024. **T1-A3**

Natural Hazards Research Australia staff authored outputs

16. Archer R, Hunter B, Yanner Snr M, Yanner Jnr M, Amini-Yanner R, Anderson K, James G, Ford A, Pearse M (2024) *Connecting Indigenous people and the emergency management sector – pathways to effective partnerships*, Project report, Natural Hazards Research Australia.
17. Eburn M & Gissing A (2024) *Principles of best practice strategic crisis management arrangements for catastrophic disasters*, Practice Note 1, Natural Hazards Research Australia Hazardous Publications
18. Eburn M and Gissing A (2024) *Principles of best practice strategic crisis management arrangements for catastrophic disasters*, Project report, Natural Hazards Research Australia.
19. Kuligowski E, Perry P, Pupedis G, Griffin A, Begg C, Dootson P, Gardner A, Neale T, Dwyer G (2024) *Community comprehension, perception and use of maps during bushfires*, Hazard Note 5, Natural Hazards Research Australia.
20. Naderpajouh N, Zolghadr A, Habibi Moshfegh P, Pakizeh A, Schlosberg D, Opdyke A, Van Ogtrop F, Howard A, Matous P, Bailie J, Hadigheh A, Crock M, Zhang H, Vervoort W, (2024) *Community Risk Assessment: Connecting technical knowledge with local and Indigenous knowledge*, Project report, Natural Hazard Research Australia.
21. Parkins K, Bentley P, Cirulis B, Penman T, Florec V (2024) *Bushfires and power networks – identifying areas of highest risk in Queensland*, Hazard Note 6, Natural Hazards Research Australia.
22. Suncorp and Natural Hazards Research Australia (2024) *Nature positive disaster risk reduction solutions*, Thought Leadership Paper.

Postgraduate Research Associate Students

33. **Ali H M**, Ranse J, Roiko A and Desha C (2024) 'Developing a healthcare transformational leadership competency framework for disaster resilience and risk management', *International Journal of Disaster Risk Reduction*, 113, doi:10.1016/j.ijdrr.2024.104898 (IF 1.1).
34. **Dippy R** (2025) 'Professionalism: defining the Emergency Manager, Response Manager and Recovery Manager', *Australian Journal of Emergency Management*, 40(1), 66–74, doi:10.47389/40.1.66 (IF 1).
35. **Fazeli S**, Haghani M, Mojtahedi M and Rashidi T H (2024) 'The role of individual preparedness and behavioural training in natural hazards: A scoping review', *International Journal of Disaster Risk Reduction*, 104379, doi:10.1016/j.ijdrr.2024.104379 (IF 1.1).
36. **Radford D A**, Maier H R, van Delden H, Zecchin A C and Jeanneau A (2024) 'Predicting burn probability: Dimensionality reduction strategies enable accurate and computationally efficient metamodeling', *Journal of Environmental Management*, 371, 123086, doi:10.1016/j.jenvman.2024.123086 (IF 1.7).
37. **Radford D A**, Maier H R, van Delden H, Zecchin A C and Jeanneau A (2024) 'An efficient, multi-scale neighbourhood index to quantify wildfire likelihood', *International Journal of Wildland Fire*, 33(5), doi:10.1071/WF23055 (IF 0.8).
38. **Singh H**, Ang L M, Lewis T, Paudyal D, Acuna M, Srivastava P K and Srivastava S K (2024) 'Trending and emerging prospects of physics-based and ML-based wildfire spread models: A comprehensive review', *Journal of Forestry Research*, 35(1), 1–33, doi:10.1007/s11676-024-01783-x (IF 0.7).



Conference presentations

This includes oral, poster, and paper conference presentations.

1. Alexandra J (18-20 June 2025) 'Conserving and reconnecting floodplains to mitigate flood risk' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T6-A1**
2. Bearman C, Hayes P, McLennan J, Penney G, Butler P, Kuhn M, and Flin R (3-5 September 2024) 'How emergency managers make decisions and use cognitive aids' [oral presentation], *AFAC Conference*, New South Wales, Australia. **T2-A4**
3. Beggs L (25-26 November 2024) 'Partnership futures: understanding the practice of collaborative Indigenous fire and land management in mainland southeast Australia. [oral presentation], *Alfred Deakin Institute Annual Conference*, Victoria, Australia. **T1-A4**
4. Begg C and Wall P (18-20 June 2025) 'The Predictions in Public Project: Evidence-based principles for communicating predictions to the public during an emergency – Reflections on Research Impact' [plenary presentation], *Natural Hazards Research Forum*, Adelaide. **T1-A2b**
5. Begg C (2025) 'The Predictions in Public Project: Evidence-based principles for communicating predictions to the public during an emergency – Reflections on Research Translation' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T1-A2b**
6. Brown K (18-20 June 2025) 'Operationalising Aboriginal land and sea management', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A4a**
7. Campbell S (18-20 June 2025) 'Bushfire risk at the rural-urban interface – Community centred/led risk reduction', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A5**
8. Cawson J (18-20 June 2025) 'Identifying and defining landscape dryness thresholds for fires', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A1**
9. Cawson J (18-20 June 2025) 'Identifying and defining landscape dryness thresholds for fires' [poster presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A1**
10. Derakhshan H (18-20 June 2025) 'Managing earthquake risk: unreinforced masonry building database' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T7-A4**
11. Dootson P (18-20 June 2025) 'Multi-hazard public information and warning platforms for the future' [oral presentation], *Natural Hazards Research Forum*, Adelaide. SA, Australia **T7-A1**
12. Dredge S (18-20 June 2025) 'Effectiveness of land-use planning flood controls on buildings' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A5c**
13. Dredge S (18-20 June 2025) 'Reviews and Inquiries Database' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **E1-A2**
14. Edwards A (27-28 November 2024) 'NT focused Bushfire & Emergency Management Research' [conference presentation], *NT Emergency Management Symposium*, Northern Territory. **BNH-CRC**
15. Gelt L and Sampson K (18-20 June 2025) 'Utilising transformative scenarios: Strengthening strategies for a climate-ready world' [plenary presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A6**
16. Gibbs L (18-20 June 2025) 'Support integration of Recovery Capitals in service plans for communities with different levels of social disruption' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T6-A4**
17. Gjedrem A (18-20 June 2025) 'Bushfire risk at the rural-urban interface – Bushfire behaviour', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A5**
18. Hawley E (18-20 June 2025) 'Awareness, education and communication for compound natural hazards', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A1**
19. Hayes P (27-28 November 2024) 'Enhancing Emergency Management Decision Making' *NT Emergency Management Symposium*, [oral presentation], Northern Territory, Australia. **T2-A4**
20. Heatley S and Anikeeva O (18-20 June 2025) 'Heatwave resilience and impacts' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A3**
21. Henderson D (27-28 November 2024) 'Building beyond the minimum', [oral presentation], *NT Emergency Management Symposium*, Northern Territory, Australia. **T2-A7**
22. Henderson D (18-20 June 2025) 'Cyclone Alfred Building Damage' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **PE-2025-01**
23. Henderson D (23-27 June 2025) 'TC Alfred: Early insights and implications for resilience' [oral presentation], *Australian Meteorological & Oceanographic Society*, Cairns. **PE-2025-01**
24. Howard A (18-20 June 2025) 'Best practice for tracking and responding to potentially traumatic event exposure' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A4**
25. Howard A, Molyneaux R and Newnham E (7-9 November 2024) 'Disasters and Mental Health: Advancing evidence of traumatic stress impacts and improving outcomes' [oral presentation], *Australasian Conference on Traumatic Stress*, Victoria. **T5-A4**
26. Jones R (18-20 June 2025) 'Emergency management volunteering – more than just words' [oral presentation], *Natural Hazards Research Forum*, 18-20 June 2025, Adelaide. **T4-A9**
27. Kroen A (18-20 June 2025) 'Natural hazards and resilience in complex urban systems. [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A9**
28. Kuligowski E (18-20 June 2025) 'Community engagement relating to floods – Part 1, research overview' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **PE-2022-01/03**
29. Mason M (18-20 June 2025) 'Modelling impacts of natural hazards on interconnected infrastructure networks', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A7**
30. Lange D (18-20 June 2025) 'Safety of alternative and renewable energy technologies', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A8**
31. Madabhushi N (18-20 June 2025) 'Insights into temporary and emergency accommodation' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T6-A2**
32. Mason M (18-20 June 2025) 'Strengthening energy networks to withstand severe wind and storms' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T7-A8**
33. Maqsood T (18-20 June 2025) 'Flood Research Program – Understanding intangible flood costs and impacts' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A5a**
34. Meissner K (18-20 June 2025) 'Evaluating the Resilient Homes Fund (Qld) / Evaluating the Resilient Homes Program (NSW)' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A6**
35. Mocatta G (15-19 October 2024) 'Awareness, education and communications for compound natural hazard events' [two oral presentations], *15th Asian Conference on Media, Communication & Film* (MediaAsia2024), Kyoto, Japan. **T2-A1**
36. Mooney C (4-5 September 2024) 'Communicating uncertainty in flash flood events' [poster presentation], *Australian Disaster Resilience Conference*, Sydney, Australia. **T2-A2**
37. Mooney C (7-12 September 2024) 'Effectiveness of the flash flood warning value chain: case study analysis of three recent high-impact events in Australia' [oral presentation], *European Meteorological Society conference*, Ljubljana, Slovenia. **T2-A2**
38. Mooney C (9-13 September 2024) 'Examining the flash flood warning value chain in Australia: An interdisciplinary and mixed methods approach', [oral presentation], *HiWeather Final Conference*, München, Germany. **T2-A2**
39. Mooney C (13-16 May 2025) 'Communication of uncertainty across the flash flood warning value chain', [oral presentation], *Floodplain Management Australia National Conference*, Melbourne. **T2-A2**
40. Mooney C (18-20 June 2025) 'Flash flooding case studies to improve predictions and the communication of uncertainty', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A2**

41. Phelps, A, Howard, A, Pedder D, Watson L, Savic A and Varker T (25–28 September 2024) 'Establishing best practice for tracking potentially traumatic event exposure in emergency services: a comparative analysis and implications for response policies', [poster presentation], *International Society for Traumatic Stress Studies 40th Annual Meeting*, Boston. Public Health Track, Poster Number 80. **T5-A4**
 42. Pickett-Heaps C (Nov 2024) 'Long-Range Flood Outlook for Australia', [oral presentation], *Hydrology and Water Resources Symposium*. **T4-A3**
 43. Price O (11–13 September 2024) 'Can we use house loss patterns in the 2019/20 fire season to predict Wildland Urban Interface conflagrations', [oral presentation], *Australian Bushfire Building Conference*, New South Wales, Australia. **T2-A5**
 44. Naderpajouh, N (15–19 June 2025) 'Community Risk Assessment: Connecting Scientific Knowledge with Local and Indigenous Knowledge', [oral presentation], *European Safety and Reliability (ESREL) and Society for Risk Analysis Europe (SRA-E) conferences*, Stavanger, Norway. **T3-A3**
 45. Naderpajouh N (18–20 June 2025) 'Community risk assessment project', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T3-A3**
 46. Neale T (18–20 June 2025) 'Cultural land management research and governance in south-east Australia' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T1-A4**
 47. Parsons M and Gloyne P (18–20 June 2025) 'ADRI-2 and the State of Disaster Resilience Report 2025' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **CR-2024-01**
 48. Peace M (18–20 June 2025) 'Fire case studies', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T3-A4**
 49. Peace M (18–20 June 2025) 'Extreme Fire Behaviour Knowledge Modules' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T1-A1**
 50. Pickett-Heaps C (18–20 June 2025) 'Long-range flood outlook for strategic preparedness', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A3**
 51. Plucinski M and Price O (18–20 June 2025) 'Why fly? How do we know that aerial firefighting operations are effective and efficient?' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A5**
 52. Reidy N and Schultz Z (18–20 June 2025) 'First Nations women, cultural fire knowledge, wellbeing and memory' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T8-A5**
 53. Seevinck J (18–20 June 2025) 'Communicating flood risk' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A5b**
 54. Slater L (18–20 June 2025) 'Healing country through Wolgalu/Wiradjuri-led land management' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A4b**
 55. Symon C (18–20 June 2025) 'What makes a good fire simulator?' *Natural Hazards Research Forum*, [oral presentation], Adelaide. **T3-A1**
 56. Storey M (18–20 June 2025) 'Capturing uncertainty in bushfire spread prediction', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A2**
 57. Vahanvati M (18–20 June 2025) Integrated solutions for bushfire adaptive homes', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A3**
 58. Velasco-Forero C (18–20 June 2025) 'Developing an integrated predictive capability for extreme rainfall and inundation' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T4-A7**
 59. Williamson G (18–20 June 2025) Bushfire risk at the rural urban interface – Mitigation strategies', [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T2-A5**
 60. Williamson, B. and Schultz, Z. (18–20 June 2025) 'Colonial load and cultural conflict' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A1**
 61. Williamson B and Connoles L (18–20 June 2025) 'Foundations in Indigenous Disaster Resilience' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A2**
 62. Young C (18–20 June 2025) 'Evaluation and monitoring for impact: developing a framework for risk prevention programs' [oral presentation], *Natural Hazards Research Forum*, Adelaide. **T5-A8**
- Postgraduate scholars**
63. Akhtar S (18–20 June 2025) 'Disasters, decisions and emotional intelligence' [conference presentation], *Natural Hazards Research Forum*, Adelaide.
 64. Atkinson C (18–20 June 2025) 'Creating resilient and sustainable critical infrastructure using evidence informed policy' [conference presentation], *Natural Hazards Research Forum*, Adelaide.
 65. Atkinson C (3–5 September 2024) 'Integrating artificial intelligence and machine learning into research for critical infrastructure resilience and sustainability: insights for practitioners and academics' [conference presentation], *AFAC Conference*, Sydney.
 66. Davis B (6–7 February 2025) 'Society for Risk Analysis' [conference presentation], *Australia and New Zealand Annual meeting*, University of Melbourne, Victoria.
 67. Davis B (15 April 2025) 'Panel discussion on the Sendai Framework on Disaster Risk Reduction, Monash Panel Discussion: Sendai & Beyond: Education, Relationality & Disaster', Monash University, Victoria.
 68. Davis B (18–20 June 2025) 'Reimagining disaster resilience education in schools' [conference presentation], *Hazards Research Australia Forum*, Adelaide.
 69. Isaac F (11 July 2024) 'Bushfires, trauma and sleep: Help me sleep please' [conference presentation], *Federation University Annual Conference*, Melbourne.
 70. Isaac F (3–5 September 2024) Online psychological intervention for insomnia, nightmares and PTSD in bushfire survivors: A pilot study' [conference presentation], *ADRC Conference*, Sydney.
 71. Isaac F, Klein B, Nguyen H, Watson S and Kennedy G (18–20 June 2025) 'A Multicomponent CBT for the Treatment of Insomnia and Nightmares in Survivors of Bushfires Presenting with PTSD' [conference presentation], *Natural Hazards Research Forum*, Adelaide.
 72. Isaac F, Klein B, Nguyen H, Watson S and Kennedy G (18–20 June 2025) 'A Multicomponent CBT for the Treatment of Insomnia and Nightmares in Survivors of Bushfires Presenting with PTSD' [poster presentation], *Natural Hazards Research Forum*, Adelaide.
 73. Metcalf O (27–28 November 2024) 'Martuwarra scenario analysis' [conference presentation], *NT Emergency Management Symposium*, Darwin.
 74. Metcalf O (23–27 June 2025) 'Economic situation analysis of Martuwarra Fitzroy River catchment and community' [conference presentation], *Ecosystem Services Partnership 11th World Conference*, Darwin.
 75. Metcalf O (20–22 May 2025) 'Economic situation analysis of Martuwarra Fitzroy River catchment and community' [oral presentation], *West Kimberley Traditional Owners Climate Adaptation and Resilience Workshop*, Broome.
 76. Metcalf O (23–24 May 2025) 'Exploring futures for the Martuwarra Fitzroy River catchment: Community feedback and dialogue' [workshop presentation], *Martuwarra Futures Scenarios Workshop*, Fitzroy Crossing.
 77. Miller G (18–20 June 2025) 'Exploring settler perspectives and engagement with cultural land management initiatives and its implications for working together on bushfire management' [conference presentation], *Natural Hazards Research Forum*, Adelaide.
 78. Mitchell L (18–20 June 2025) 'Multi-agency collaboration in disaster recovery after bushfire' [conference presentation], *Natural Hazards Research Forum*, Adelaide.
 79. Padamsey K (18–20 June 2025) 'Firefighter health hazards: key insights and future directions' [conference presentation], *Natural Hazards Research Australia Forum*, Adelaide.
 80. Skoko E (4–5 September 2024) 'Mothers and babies in disasters. We can do better' [conference presentation], *ADRC Conference*, Sydney.
 81. Smith J (19 November 2024) 'Irrigated green firebreak research to complement wildfire management in Queensland's wildland urban interface' [conference presentation], *Queensland IGEM Disaster Management Research Forum*, Brisbane.

Associate students

82. **Dippy R** (19 November 2024) 'Professionalisation of the Australian emergency manager' [conference presentation], *Queensland IGEM Disaster Management Research Forum*, Brisbane.
83. **Dippy R** (18-20 June 2025) 'The human capacity demands of an emergency manager in Australia' [conference presentation], *Natural Hazards Research Australia Forum*, Adelaide.
84. **Kennedy-Borrissow A** (June 2024) 'When cultural workers become disaster workers: Identifying the risks of delivering arts programs in post-disaster contexts' [conference presentation], *17 International Conference on Arts and Cultural Management (AIMAC)* Portugal.
85. **Kennedy-Borrissow A** (April 2024) 'Defining and understanding "creative recovery": Case studies of community – engaged arts and cultural programs in Australian disaster contexts' [conference presentation], *Fostering Creative Health Conference*, Melbourne.
86. **O'Hara D** (19 November 2024) 'Understanding conflict in disaster recovery collaborations' [poster presentation], *Queensland IGEM Disaster Management Research Forum*, Brisbane.
87. **Singh H** (19 November 2024) 'An empirical and dynamic tool for prediction forest fire spread using remote sensing and machine learning technique' [conference presentation], *Queensland IGEM Disaster Management Research Forum*, Brisbane.
88. **Toner J** (19 November 2024) 'Empowering Community to Speak for and about Nature where they live' [poster presentation], *Queensland IGEM Disaster Management Research Forum*, Brisbane.

Appendix 4 Students

Table 15: Ongoing Centre Postgraduate Research Scholarship Students as of 30 June 2025

No.	First name	Last name	Institution	Project title	Round
Full scholarships					
1	Natasa	Adamovic	Charles Darwin University	Death in disaster: Sociocultural perspectives and challenges in disaster victim identification	11
2	Ashley	Fletcher	La Trobe University	How are local governments trying to embed strategic climate change adaptation in the context of increasing events, constrained resources and increasing community demand?	14
3	Ahmad	Hassan	Victoria University	Physics-based modelling of field-scale junction fire	6
4	Christy	Hung	University of Sydney	Determining changes in eucalyptus litter during decomposition	4
5	Mohamed	Sharaf	Victoria University	Parametric study of the transition from a surface fire to a crown fire through physics-based modelling	4
Top up scholarships					
6	Evelyn	Adade	Monash University	Water experimentation towards more sustainable urban water management in rural/regional townships: a journey of processes and places	11
7	Syed	Aktar	University of Tasmania	The role of trust-building for effective collaboration: using evidence-based strategies to strengthen disaster response	10
8	Cameron	Atkinson	University of Tasmania	Creating resilient and sustainable critical infrastructure using evidence informed policy	1
9	Susan	Atkinson	University of Canberra	Understanding people's communication needs and behaviours and how community communication ecologies spontaneously form in a natural disaster crisis	9
10	Louise	Buckley	Deakin University	Cross-cultural relationships in natural resource management: Understanding the nature and experiences of partnership and collaboration	1
11	Audrey	Cetois	University of Queensland	Focusing on the intersection of community resilience and energy resilience	6
12	Sarah	Cooley	University of Melbourne	Response, resilience and recovery of Tasmania's endangered Pencil Pine using a multi-archive paleoenvironmental record	4
13	Belinda	Davis	Monash University	Building social and transformative resilience through school education: A case study on bushfire learning	8
14	Anna	Durkin	RMIT University	Landscape architecture design and development of natural systems wastewater treatment and landscape design	5
15	Catherine	Falco	University of Sydney	Integrating ecopsychology, systems thinking and community-led practices for working with ecological emotions in communities prone to successive disasters	14
16	Benedict	Fleming	Deakin University	Scientific understanding of coastal cohesive (soft) cliff failure	11
17	Natale	Froia	University of Melbourne	Community experiences of floodplain management in the context of post-disaster reconstruction in regional Australia.	11
18	Rhianna	Gallagher	University of Queensland	Relationships to, and perceptions of, insurance as a source of recovery from extreme weather events	14
19	Lachlan	Hensey	Deakin University	Decentralisation, risk and resilience in Australia's energy transition	13
20	Nima	Janfeshanaraghi	RMIT University	Evacuation behaviour during bushfires	12
21	Tinula	Kariyawasam	RMIT University	Statistical analysis of local climate records	13

No.	First name	Last name	Institution	Project title	Round
22	Thomas	Keeble	University of Melbourne	Quantifying the relative contributions of human and non-human generated fire to vegetation dynamics in southeastern Australian palaeolandscapes	14
23	Thanirosan	Krishnakumar	Queensland University of Technology	Bushfire risk assessment of buildings using advanced technologies	7
24	Carolyn	Lambert	Queensland University of Technology	A justice-based approach to climate-related planned relocation	13
25	Brigit	Maguire	University of Sydney	Strengthening the experiences of people who are deaf or hard of hearing during extreme weather events and other disasters	6
26	Sathurshan	Mathavanayakam	Queensland University of Technology	Investigation on in-plane behaviour of masonry walls made of mortarless interlocking concrete blocks	14
27	Michael	Meadows	RMIT University	Correcting vertical errors in a global digital elevation model to derive a “bare earth” terrain surface for improved flood modelling in data-scarce regions	6
28	Oscar	Metcalfe	Charles Darwin University	Developing ecosystem services based economic opportunities for Indigenous communities in northern Australia	10
29	Gabrielle	Miller	University of Melbourne	Exploring settler perspectives and engagements with cultural land management initiatives and its implications for working together on bushfire management	9
30	Louise	Mitchell	University of Sydney	Multi-agency collaboration in disaster recovery after bushfire	1
31	Jessica	Overton	University of Western Australia	Evaluating the micro and macro scale variation in soil heating during prescribed or low intensity bushfire	14
32	Phoebe	Quinn	University of Melbourne	Exploring the role of civic technologies in community decision making in the face of climate change and disasters	1
33	Catherine	Ryland	University of Wollongong	Planning for bushfire protection: Maintenance of protection measures	BNHCRC Roll-over
34	Elena	Skoko	Queensland University of Technology	Maternity care in disasters. New frameworks for immediate action	10
35	Jady	Smith	University of the Sunshine Coast	Mitigating fire through water management in the wildland urban interface	3
36	Alex	Tanfield	University of Canberra	The effect of disrupted social connection on wellbeing during prolonged disasters	6
37	Simeon	Telfer	RMIT University	Remote sensing of fuel to improve fire behaviour predictions in Mallee and Heathy shrublands	BNHCRC Roll-over
38	Nur Fajar	Trihantoro	RMIT University	A novel satellite-based fire detection algorithm using data fusion	13

Table 16: Centre-funded Postgraduate Scholars who have theses under assessment as of 30 June 2025

No.	First name	Last name	Institution	Project title	Round
Top up Scholarships					
39	Matthew	Kyng	Victoria University	Parameterisation for a simplified short-range firebrand model from physics-based modelling	BNHCRC Roll-over
40	Kate	Simmonds	University of Melbourne	Impact of fires on temperate rainforests in northern New South Wales	BNHCRC Roll-over
41	Hafiz	Suliman Munawar	University of New South Wales	Machine learning for humanitarian disaster relief efforts through employing rule-based verification on drone's aerial imagery	2

Table 17: Centre-funded Postgraduate Scholars who have completed their studies

No.	First name	Last name	Institution	Project title	Round
Full Scholarships					
42	Kiam	Padamsey	Edith Cowan University	Smoke exposure profiles of bushfire fighters in the southwest ecoregion of Western Australia	3
43	Fadia	Isaac	Federation University	A multi component CBT for the treatment of insomnia and nightmares in survivors of bushfires presenting with PTSD	1
44	Jiyu	Liu	University of New South Wales	Assessing post-fire forested ecosystem by using spaceborne LiDAR over south-eastern Australian	3
Top-up scholarships					
45	Heather	Simpson	University of Wollongong	Productivity and effectiveness of suppression resources and tactics on large fires	3
46	Saimum	Kabir	University of Melbourne	Flood risk reduction in a dynamic urban context exploring the urban-water-resilience nexus	1
47	Wavne	Rikkers	University of Western Australia	Fighting the fires within: Breaking down the barriers to mental help-seeking amongst first responders with post-traumatic stress disorder (PTSD) and high psychological distress	3
48	Nina	Rogers	University of Tasmania	Exploring leadership for municipal climate change adaptation planning and implementation	6
49	Rebecca	Ryan	University of Wollongong	Developing novel geochemical and spectroscopic techniques to extend existing bushfire records	4
50	Sukanya	Jaiswal	University of New South Wales	Impact of bushfire smoke on eye surface	6

Table 18: Ongoing Centre Associate Students as of 30 June 2025

No.	First name	Last name	Institution	Project title
1	Sumayyah	Ahmad	Curtin University	An investigation of spontaneous volunteers' social media engagement in emergency disaster management
2	Jasjit Singh	Banga	RMIT University	Landscape urbanism as a strategy for disaster risk reduction: A participatory design practice for flood risk mitigation in coastal cities
3	Koro	Basma	University of Wollongong	Humanitarian relief supply chains in mitigating suffering and reducing loss of life during disasters
4	Annal	Dhungana	Massey University	Effective communication of uncertainty around modelling in hazard and risk models
5	Shima	Farazmehr	Australian National University	Adapt or perish: An AI-enabled strategy for enhancing emergency response networks adaptation in Australia
6	Sara	Fazeli	University of New South Wales	Measuring and improving individual preparedness in response to flood and bushfire emergencies
7	Victoria	Heinrich	University of Tasmania	Use of weather and climate information: Risk perception and decision-making in Antarctica, the sub-Antarctic and Australia
8	Sarah	Hoyle	University of British Columbia	Restor(yl)ing fire-adapted territories: wildfire recovery, Indigenous leadership and restoration in Secwepemcúl'ecw
9	Tony	Jarrett	Central Queensland University	Agency experts supporting bushfire disaster resilience education for primary school students: a case study in NSW
10	Michael	Johnson	Monash University	Exploring the Australian practices of disaster resilience, with a focus on community-led approaches
11	Sheriden	Keegan	Griffith University	Enabling governance for sustainable and resilient regional food system development in Australia
12	Anna	Kennedy-Borissow	University of Melbourne	Creative, recovery, and resilience: How the arts strengthen resilience in communities affected by disasters
13	Danielle	O'Hara	University of Queensland	Conflict in disaster recovery: Why does it happen? What can we do about it?
14	Ahmed	Qasim	Griffith University	Using digital technology to share and trade local food, and improve community food resilience
15	Atul	Rai	University of Wollongong	Quantifying runoff in arid zone basins of central Australia
16	Harikesh	Singh	University of the Sunshine Coast	An empirical and dynamic tool for predicting forest fire spread using remote sensing and machine learning techniques
17	Bradley	Slater	Edith Cowan University	Analysis of the Australian Emergency Management Arrangements (AEMA)
18	Ryan	Smith	University of the Sunshine Coast	Developing bioclimatic urban planning and design policy for the public realm
19	Jane	Toner	Griffith University	Enhancing community ecoliteracy for regenerative design: Inspired by nature
20	Shabnam	Varzeshi	RMIT University	Smart urban resilience in Australian cities: A governance and technology framework for climate adaptation and service continuity
21	Yunjin	Wang	Griffith University	Urban green space is a critical component for children living in urban areas to enrich their mental and physical development
22	Eleanor	Williams	University of Queensland	The effectiveness of rapid evidence in fast-paced policy contexts
23	Anna	Williams	Australian National University	Exploring community resilience to cascading disasters in Australia
24	Junxiang	Xu	University of New South Wales	Robust, adaptive and ethically-informed transport networks under uncertainty

Table 19: Centre Associate Students who have completed their doctoral studies

No.	First name	Last name	Institution	Project title
20	Heba	Ali	Griffith University	How can hospitals improve their resilience and ensure business continuity during disasters
21	Russell	Dippy	Charles Sturt University	The human capacity demands of an emergency manager in Australia
22	Zakria	Qadir	Western Sydney University	UAV trajectory optimization for pre – and post-bushfire disaster assessment using Artificial Intelligence
23	Douglas	Radford	University of Adelaide	An integrated modelling approach for the planning of collaborative and adaptive wildfire risk-reduction activities



Find supporting research
documents and the portfolio
of projects on our website
naturalhazards.com.au

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