Office of the Inspector-General of **Emergency Management**

DELIVERING FOR QUEENSLAND

2025 Queensland Disaster Management Research Forum

Wednesday 12 November 2025

Queensland Government

Contents

The 2025 Queensland Disaster Management Forum is proudly presented in partnership with the Research Advisory Panel

2025 Queensland Disaster Management Research Forum Program

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Join the discussion on Slido! Code: 2815839

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Make sure to take a moment to enjoy all those posters!

Presenter bios and abstracts

Key note address

Dr Thomas (Tom) Wilson, Chief Science Advisor, National Emergency Management Agency, New Zealand

Tom is the Chief Science Advisor (CSA) at the National Emergency Management Agency | Te Rākau Whakamarumaru (NZ NEMA) in Aotearoa New Zealand. He also holds the position of Professor of Disaster Risk and Resilience at the University of Canterbury | Te Whare Wānanga o Waitaha. In his current role, Tom leads and supports the provision of high-quality, independent scientific advice to NZ NEMA and the broader emergency management sector across Aotearoa New Zealand. This includes fostering partnerships with science organisations and strengthening the connection between research, policy, and practice. He is an ex-officio member of NZ NEMA's Executive Leadership Team.

During emergency responses, Tom directly supports the Director and National Controller, provides strategic coordination of the science system, and facilitates, convenes, and chairs expert and science advisory groups or panels as needed. He also works closely with the Prime Minister's Chief Science Advisor. Tom has contributed to work on catastrophic event risk assessment and readiness, the formalisation of science's role within the emergency management system, and the development of capability for science advice on space weather risks. His research expertise lies in disaster risk assessment and rural disaster resilience. He has led and served as a senior researcher in numerous large-scale, interdisciplinary applied research programmes.

These have explored the physical, social, and economic impacts of natural hazards, particularly volcanoes, earthquakes, and tsunamis and developed strategies to enhance disaster resilience in Aotearoa New Zealand, the Pacific, and internationally.

Future of Research: Panel

Including Dr Thomas (Tom) Wilson, Chief Science Advisor, National Emergency Management Agency, New Zealand

Professor Kerrie Wilson, Queensland Chief Scientist

Professor Kerrie Wilson was appointed Queensland Chief Scientist on 1 November 2023. She is a leading conservation scientist with a strong track record in research, strategy, and policy. Her previous roles include Pro Vice-Chancellor (Sustainability and Research Integrity) and Executive Director of the Institute for Future Environments at Queensland University of Technology. Professor Wilson has held senior positions with The Nature Conservancy Australia, UNESCO, and the ARC Centre of Excellence for Environmental Decisions.

She is also an Affiliated Professor at the University of Copenhagen and a member of the Australian Heritage Council. Her contributions have been recognised with multiple awards, including the Prime Minister's Prize for Life Scientist of the Year and the Eureka Prize for Outstanding Young Researcher.

She holds a Bachelor of Environmental Science (Hons) from UQ and a PhD from the University of Melbourne, completed in collaboration with the UN Environment Programme.

Dr Margaret Cook, Griffith University

Dr Margaret Cook is an environmental historian and a Research Fellow at the Australian Rivers Institute, Griffith University and an Honorary Research Fellow at La Trobe University. She is the author of A River with a City Problem that looks at the history of flooding in Southeast Queensland. Margaret is a regular contributor to The Conversation, radio and television.

Her new 2026 project will be working with the Queensland Reconstruction Authority and Natural Hazards Research Australia to address disaster resilience within communities.

Kate Retzki, Director, Research and Communications, Office of the Inspector-General of Emergency Management

As Director, Research and Communications, Ms Retzki is helping to strengthen and connect the disaster management sector, with an emphasis on evidence-based decision making, collaboration and continuous improvement.

Ms Retzki is a communications and engagement specialist, with international experience in research-based citizen science and behaviour change programs. Ms Retzki has worked across infrastructure, public health, biosecurity, and Queensland's disaster management sector. Ms Retzki entered the disaster management sector through her leadership of the state's primary community preparedness initiative, applying a locally led, state coordinated approach to household resilience building. Now at the Office, she is dedicated to helping ensure Queensland's disaster management system delivers for all Queenslanders.

Kylie Mercer, Director, Office of the Inspector-General of Emergency Management

As Director, Legal, Monitoring and Evaluation, Kylie provides high quality independent legal advice to the IGEM and significantly influences the review, development, evaluation and delivery of standards across disaster and emergency management functions through evidence-based decision making.

Ms Mercer was admitted as a solicitor in January 2001 and has worked in a range of legal and leadership roles at Legal Aid Queensland, Queensland College of Teachers, Workplace Health and Safety and the Parole Board Queensland where she led significant change and delivered strong outcomes.

Prior to commencing with the Office, Ms Mercer was engaged as Registrar at the Board of Professional Engineers of Queensland.

Ian Williams, Disaster and Disruption Resilience Officer, Noosa Shire Council

Until 2020, Ian worked as a communication and community engagement strategist. It all started with a dream role at World Expo 88 and since then, Ian held various positions with Commonwealth Heads of Government Meeting, Sydney 2000 Olympic and Paralympic Torch Relays, Melbourne 2006 and Gold Coast 2018 Queen's Baton Relays, World Masters Games, Goodwill Games, Los Angeles Cultural Festival.

He has also worked with Bendigo Bank and the Australian Open and PGA Championships. Ian has held senior management positions in newspaper, radio, and television, but it was an opportunity to engage with Sunshine Coast communities and create emergency action guides that turned Ian towards working in disaster management.

Working as an advisor, Ian started role with Noosa Shire Council in late 2020 in what has become his passion - creating engaging resilience presentations and programs in schools and the aged care sector in the place he's called home for more than 25 years. Ian's joy for his work now extends to engaging with district disaster management groups and emergency services partners to work closely with communities to foster networks and strengthen resilience.

Innovating emergency management training through cross-sector collaboration

Abstract: In 2024, QPS and Griffith University partnered to develop a pilot course enhancing disaster management decision-making under uncertainty. Co-designed by QPS leaders and Griffith academics, the course incorporates feedback from pilot sessions and interviews with experienced and emerging personnel. Key topics include resilience, wellbeing, creativity tools, team trust, and communication strategies.

Tailored for QPS and government agency representatives at the State Disaster Coordination Centre, the program aims to strengthen self-awareness, leadership, teamwork, creativity, risk assessment, and stakeholder engagement. Delivered over two to three days in November 2025, this evidence-based initiative exemplifies cross-sector collaboration and supports IGEM's mission to improve disaster preparedness.

Inspector George Shand, Queensland Police Service

Inspector George Shand joined the Queensland Police Service in 1996 after serving in Scotland and London. He is currently Inspector for Emergency Management & Coordination Command, leading disaster management capability development across Queensland.

Since 2011, he has coordinated over 30 major disaster responses, including managing the State Disaster Coordination Centre. He played a key role in Queensland's COVID-19 response and held recovery leadership roles for the 2022 Brisbane floods and 2024 Gold Coast Hinterlands storms.

In 2023, he led a practitioner review of Queensland's disaster arrangements. He is a recipient of the National Emergency Medal and Australian Police Medal.

Acting Inspector Robb Wann, Queensland Police Service

Acting Inspector Robb Wann has served with the Queensland Police Service since 1991, building a career focused on leadership, operational excellence, and community resilience. He currently leads the Exercise Management Unit within Emergency Management & Coordination Command, helping strengthen Queensland's disaster preparedness.

Over his 34-year career, Robb has held key roles including Officer in Charge at multiple stations, Exercise Capability Advisor in Counter Terrorism, and District Duty Officer in Brisbane. He has contributed to major disaster responses including the 2011 floods, COVID-19, cyclones, and bushfires, with expertise in exercise management, crisis coordination, and stakeholder engagement.

Associate Professor Dr. Julienne Senyard, Griffith University

Dr Julienne Senyard is an Associate Professor at Griffith Business School, Griffith University, specialising in organisational innovation and strategic entrepreneurship. Her research focuses on how organisations and systems adapt to volatility, complexity, and resource constraints, insights highly relevant to disaster and emergency management.

Through her work on entrepreneurial behaviour and resource transformation, she explores how individuals and communities innovate and make decisions under uncertainty to create social and economic impact.

Associate Professor Dr Ellie Meissner, Griffith University

Dr Ellie Meissner is a psychologist with extensive experience across academia, research, and industry. She holds a PhD in Organisational Behaviour from the University of Queensland.

Driven by a passion for teaching, she is particularly focused on fostering students critical thinking and reflexive skills. Her research centres on amplifying the voices of underrepresented groups, including migrants, casual workers, and students.

Professionalisation of disaster management into the future

Abstract: CQUniversity has delivered emergency and disaster management qualifications for over a decade, supporting workforce readiness for complex emergencies. Growing interest in cross-disciplinary learning prompted a curriculum evaluation project (ethics no. 24765) to explore factors influencing student engagement. Using Saldãna's (2016) model, 56 teaching, curricula, and governance instruments were thematically analysed. Phase one findings reveal three themes: systems and structures shape learning, learning is a shared responsibility, and connection-building is vital. Insights highlight challenges, successes of strategies like guided flexible learning pathways, and opportunities for partnerships. These findings will inform phase two and enhance education for a climate-challenged future.

Dr Helen Keen-Dyer Central Queensland University

Associate Professor Helen Keen-Dyer is here today representing the broader team of Dr Elise Rivera, Dr Robyn Preston, Shannon Delport and Dr David Fanany. Helen is a Senior Fellow of the Higher Education Academy and the Associate Professor, Disaster Management and Health at CQUniversity where she is the learning and teaching specialist for disaster management, public health and paramedic sciences. Helen is also part of the emergency and disaster management teaching team. Helen has a Doctor of Philosophy (PhD); her thesis exploring education in the fire and emergency services context, with a particular focus on the Higher Education-industry nexus. She also holds a Bachelor's degree and Master's degree in Adult Education. Helen's teaching and research interests include contemporary issues, research literacies in emergency and disaster management, scholarship of learning and teaching, curriculum design, and Higher Education.

Higher education as an enabler and advancing professional practice through research

Abstract: Professionalising emergency management requires an agreed, extensive body of knowledge, yet in Australia its scope and content remain undefined. Research is critical to shaping this foundation and informing accessible resources practitioners can apply in practice. Evidence of research application also strengthens funding opportunities. This presentation explores requirements for an emergency management body of knowledge and the role researchers play in defining its breadth and contributing content. Establishing this knowledge base will support professional development, enhance practice, and foster sector-wide consistency, ensuring emergency management evolves as a recognised profession equipped to address complex and emerging challenges.

Dr Russell Dippy, Charles Stuart University

Dr Russell Dippy is a dual internationally certified emergency manager and the Emergency Management Coordinator for South Australia Police. He holds a Doctor of Public Safety from Charles Sturt University, a Master of Emergency Management with Distinction, and multiple vocational qualifications in leadership, volunteer management, and HR. Russell has led operational and strategic responses to major emergencies at state, national, and international levels.

He was a founding member of the Australian Emergency Management Assistance Team and has deployed internationally with a government disaster medical team. He is a published author in emergency management professionalisation and holds leadership roles in several international certification bodies, contributing to the advancement of the field globally.

Program AIR (Advocacy, Information, Resilience) – the Gold Coast's response to the Severe Wind Hazard Assessment

Abstract: Program AIR (Advocacy, Information, Resilience) is a City of Gold Coast initiative to strengthen preparedness for severe wind and tropical cyclone impacts, informed by the Severe Wind Hazard Assessment SEQ. With significant investment, the program aims to enhance infrastructure, community readiness, and resilience through seven interlinked projects. These include shelter needs assessments for vulnerable residents, market research to inform targeted messaging, a strata vulnerability study, and design guidelines for places of refuge. By embedding research into practical outcomes, Program AIR ensures evidence-based preparedness, improved response capacity, and faster recovery—safeguarding critical services and the Gold Coast way of life.

Mark Ryan, City of Gold Coast

Mark Ryan is the General Manager of Disaster and Emergency Management and Local Disaster Coordinator for the City of Gold Coast. With senior operational roles across fire and emergency services in three states and territories, he has led major responses including the 2014 Brisbane hailstorms, the G20 Leaders meeting, the 2023 Christmas Day Gold Coast storm, and Tropical Cyclone Alfred. Mark is a strong advocate for building community and infrastructure resilience to reduce the impacts of increasingly complex disasters. He has received the National Medal and several other honors for his service.

First Nations women, cultural fire knowledge, wellbeing and memory

Abstract: In May 2025, the Australian Women-in-Fire Training Exchange (AUS WTREX) delivered an Australian-first program in Far North Queensland, providing 38 fire practitioners from around the world with intensive training and cultural exchange. The 12-day event integrated Indigenous Australian fire practices and highlighted the role of Indigenous women in fire management, offering participants a unique, transformative experience.

AUS WTREX demonstrated the value of intersectional perspectives in effective fire management and positioned Queensland as a leader in inclusive practice. Key learnings will inform cultural safety and future training initiatives across Queensland's firefighting agencies, strengthening diversity and capability in fire management.

Zoe Schultz, National Indigenous Disaster Resilience Program, Monash University, Natural Hazards Research Australia, and Queensland Fire Department

Zoe is a Gamilaroi and Malaysian Chinese woman from Southeast Queensland. She is a researcher with the National Indigenous Disaster Resilience program at Monash University. She has previously worked in planning and transport roles at the local government level and has studied a Master of Disaster Risk and Resilience in Aotearoa-New Zealand. Zoe is committed to supporting work that strengthens the safety and wellbeing of Country, communities and our cultures.

Kylee Clubb, National Indigenous Disaster Resilience Program, Monash University, Natural Hazards Research Australia, and Queensland Fire Department

Kylee Clubb is an Indigenous fire practitioner with over 15 years' experience in Far North Queensland. She is Acting First Nations Bushfire Mitigation Officer with the Queensland Fire Department (QFD) and a volunteer crew leader on Wadjanbarra Country. Kylee promotes culturally appropriate burns and empowers Indigenous communities in land stewardship. She leads the Gambir Yidinji Cultural Fire Practitioner Women's team and helped develop AUSWTREX, Australia's first Indigenous-led fire training exchange. Her work blends fire practices with storytelling and art to build cultural pride and resilience. In 2024, she received the QFD Commissioner's Certificate of Appreciation.

Alex Lacey, National Indigenous Disaster Resilience Program, Monash University, Natural Hazards Research Australia, and Queensland Fire Department

Alex Lacy is a proud Ewamian woman and Operational Ranger with Queensland Parks and Wildlife Service (QPWS). She is the first Ewamian woman to serve as an Incident Controller and Aerial Incendiary Operator. In 2022, Alex was one of four Indigenous women selected for the inaugural Indigenous Women-in-Fire Training Exchange (WTREX) in California, where she shared cultural burning knowledge with members of the Karuk tribe.

Nell Reidy, National Indigenous Disaster Resilience Program, Monash University, Natural Hazards Research Australia and Queensland Fire Department

Nell is a settler-descended researcher focused on trauma-informed and healing-centred community engagement. With over seven years of experience collaborating with Indigenous communities across Australia, she is a skilled facilitator who prioritises trust and respect to shape meaningful research outcomes.

Chloe Swiney, National Indigenous Disaster Resilience Program, Monash University, Natural Hazards Research Australia, and Queensland Fire Department

Chloe Swiney is the Bushfire Mitigation Manager for the Rural Fire Service Queensland in Wide Bay Burnett. With 14 years at QFD, she has led initiatives like AUSWTREX, supporting Indigenous women in fire leadership. Chloe participated in KWTREX in California, learning traditional burning techniques alongside Indigenous women globally. She was appointed First Nations representative on the inaugural RFSQ Advisory Committee and deployed to Canada during historic wildfires. In 2024, she received the QFD Commissioner's Certificate of Appreciation for her contributions to Close the Gap.

Balancing tradition and technology: The evolving role of crisis communication during tropical cyclone weather events

Abstract: This study examines crisis communication during Tropical Cyclones Jasper and Kirrily, focusing on official government messaging versus TikTok content. Using the IDEA model, seven media briefings were analysed, revealing political complexity with eight representatives present. Additionally, 100 TikTok videos were reviewed, highlighting a major gap in government engagement, particularly during TC Jasper, where public-generated content (n=26), including misleading posts (n=10), dominated. Only two official TikTok videos appeared during TC Kirrily, contrasting with structured, technical briefings. Findings underscore the need for integrated communication strategies leveraging both traditional and emerging platforms to deliver clear, actionable information across demographics during emergencies.

Dr Susan Grantham, Griffith University

Susan Grantham is a Lecturer in Communication at Griffith University and an early-career researcher. Her work explores the use of emerging social media platforms such as TikTok, in political campaigning, reputation management, and crisis communication. Susan brings over 16 years of professional experience in government strategic communications, with a strong background in crisis management and social media engagement.

Modelling the impact of natural hazards on interconnected infrastructure networks

Abstract: Natural hazards can disrupt critical infrastructure such as electricity, water, roads, and telecommunications, with cascading impacts due to network interdependencies. This project develops a probabilistic model to estimate direct and flow-on effects of hazards on electricity, water supply, and road networks. Using lessons from historic events like Cyclone Alfred, we examine how these networks interact during disruptions. The framework employs Bayesian modelling and network graphs to simulate impacts and consequences, supporting improved risk assessment and resilience planning. Findings will inform strategies to mitigate cascading failures and strengthen infrastructure systems against future natural hazard events.

Dr Avin Hadlos, School of Civil Engineering, The University of Queensland and Natural Hazards Research Australia

Arvin Hadlos is an architect and humanitarian engineer dedicated to advancing resilient housing and infrastructure systems. He holds both Bachelor's and Master's degrees in Architecture from the Philippines and brings three years of professional experience in design and construction. In 2021, Arvin commenced his PhD at the School of Civil Engineering, The University of Sydney, supported by the Engineering Research Scholarship. His doctoral research focused on rebuilding housing in resource-constrained communities affected by earthquakes and typhoons. Upon completing his PhD in 2025, he joined the School of Civil Engineering at The University of Queensland as a Postdoctoral Research Fellow, where he investigates the impacts of natural hazards on interconnected infrastructure networks.

Dr Matt Mason, School of Civil Engineering, The University of Queensland and Natural Hazards Research Australia

Dr Mason is an Associate Professor in the School of Civil Engineering at The University of Queensland, specialising in natural hazard engineering. His research spans a broad range of topics, including catastrophe risk modelling (tropical cyclones, thunderstorms, floods), wind engineering, wind tunnel testing, boundary layer meteorology, and observational meteorology. He is particularly focused on understanding and mitigating the impacts of severe weather on the built environment, leveraging advanced risk modelling and assessment tools to inform resilient design and planning.

Managing earthquake risk: Unreinforced masonry building database

Abstract: Legacy unreinforced masonry (URM) buildings pose a major earthquake risk in Australia, having been constructed before seismic design codes. Events like the 1989 Newcastle earthquake underscore their vulnerability.

With Australia experiencing one to two magnitude 5 earthquakes annually, emergency management stakeholders have identified the need for a nationally consistent URM dataset. Funded by Natural Hazards Research Australia, this project uses AI and geospatial technologies to detect and classify URM buildings nationwide. The resulting database will support seismic risk assessments, mitigation strategies, and disaster response planning, fostering interdisciplinary collaboration and scalable workflows to strengthen resilience and preparedness.

Dr Hossein Derakhshan, Queensland University of Technology

Hossein Derakhshan has over 17 years of experience in assessing and improving the seismic performance of unreinforced masonry buildings. He earned his PhD in Civil Engineering from the University of Auckland in 2011, focusing on this topic.

He has since held academic roles at the University of Adelaide and Queensland University of Technology, leading research in seismic engineering. In 2018, he was awarded an ARC DECRA to study unreinforced masonry wall seismic response. Hossein has collaborated with key stakeholders, including the Bushfire and Natural Hazards CRC, Concrete Masonry Association of Australia, and Queensland Fire and Emergency Services.

Matthew Dyer, Queensland Fire Department

Matt Dyer brings over twenty years of experience in disaster management across Queensland, where he has made substantial contributions to research, policy, and practice. His leadership has guided disaster response efforts through events that deeply affected regional communities, earning him the National Emergency Medal in recognition of his service and dedication to community safety.

Originally from Cape York, Matt fondly recalls the heat, humidity, and sensory cues of an approaching monsoon, memories that continue to fuel his passion for understanding current and emerging hazards and risks.

His work focuses on building resilience in a climate-challenged world, and he remains a lifelong student of disaster resilience. Matt currently serves as Executive Manager of the Hazard and Risk Unit within State Operations at the Queensland Fire Department.

Evaluating resilient housing programs: Lessons for Australia

Abstract: Emergency management, weather, and government agencies face a shared challenge: delivering effective public warnings as technology and communication needs evolve.

Multi-hazard platforms now serve as central hubs, providing spatially displayed hazard information and preparedness advice. This project examines how these platforms support safety and how they can adapt to future demands, focusing on diverse cohorts including CALD communities and people with disabilities.

Objectives include understanding platform use, identifying strengths and limitations, and developing design principles to enhance trust and reach. Through co-design, systematic review, and empirical research, the project will deliver practical recommendations for a national, standardised system.

Professor Paula Jarzabkowski, University of Queensland

Paula Jarzabkowski is a Professor at The University of Queensland and a globally recognised expert in public-private approaches to closing the disaster insurance protection gap.

Her research explores how insurance markets can be transformed into strategic partners in climate adaptation and resilience. Paula currently leads a team evaluating the Resilient Homes Fund, examining its effects on individual and community resilience.

Her expertise in policy and practice is reflected in her advisory roles, including membership on the OECD High-Level Advisory Board for the Financial Management of Catastrophic Risk.

Jimmy Scott, Queensland Reconstruction Authority

Since joining Queensland Reconstruction Authority (QRA) in May 2012, Jimmy has held a number of executive roles, coordinating recovery and resilience building efforts following significant disaster events.

Jimmy coordinated the implementation of the Queensland Strategy for Disaster Resilience, putting Queensland at the leading edge of recovery and resilience policy nationally and internationally, and is currently working across government to embed resilience and risk reduction in the Queensland Disaster Management Arrangements.

Prior to working at QRA, Jimmy worked in roles across the Queensland and Northern Territory governments. Jimmy is a graduate of the Australian Institute of Company Directors and the University of Queensland.

Evolving community preparedness: Insights from University of the Sunshine Coast collaboration

Abstract: City of Moreton Bay and UniSC partnered in 2024–2025 to identify what truly improves community disaster preparedness and how councils can adapt engagement.

The program combined a literature review, a pulse survey comparing 2021 and 2024 resident confidence, and 2025 focus groups exploring trust, lived experience, and warning preferences. Findings offer practical insights: risk understanding drives engagement; clear, plain English pathways from awareness to action matter; and tailored approaches are needed for vulnerable cohorts.

Partners will apply results through Local Resilience Plans, using community-centric language and inclusive frameworks. This collaboration model demonstrates rapid learning for future resilience planning.

Chris Barnes, City of Moreton Bay

Chris Barnes manages Emergency Management & Public Safety at City of Moreton Bay. He leads work to prepare the community for severe weather, improve local resilience plans, and learn from recent events. Before local government, he served in the UK Armed Forces and the Australian Defence Force for 20 years. He holds a Master's in Business from UNSW School of Business and read Environmental Geology, graduating with a Bachelor of Science (Honours) from Sheffield University in the previous century.

Renee Barnes, University of the Sunshine Coast

Dr Renee Barnes is an Associate Professor of Journalism at the University of the Sunshine Coast. Her research focuses on the role of communication in participatory behaviours. Prior to joining academia she was a journalist for more than 15 years.

Poster bios and abstracts

In the eye of the storm: A comparative study of human and AI-generated emergency alerts in risk communication practice

Abstract: Artificial intelligence (AI) is increasingly used in public service and research, especially during emergencies. This study evaluates AI's role in emergency communication by analysing twelve alerts issued during Tropical Cyclone Kirrily in Queensland (January 2024).

Phase one assessed human-generated alerts using the IDEA model and AIDR guidelines, revealing consistent issues with clarity and community relevance despite timely delivery. Phase two used ChatGPT-4 to recreate the alerts, showing that AI, when properly guided, can produce clearer, more tailored, and action-oriented messages than traditional methods.

Manolo Iachizzi, Griffith University

Manolo is a PhD candidate at Griffith University. His research focuses on the intersection and application of Artificial Intelligence in crisis and disaster communication.

Mental health in the era of climate change: Mapping nine core services for ecosystem response

Abstract: The decade from 2011 to 2020, the hottest on record, has intensified climate-related disasters, straining mental health services vital to community resilience. While disaster-related psychological impacts are well known, system-level responses remain underexplored. This research identifies nine core service areas forming a climate-responsive mental health ecosystem, shaped by local actors and adaptive, community-driven support. The poster presents these areas and introduces the "Stabilise, Adapt and Anchor" framework to guide disaster preparedness and recovery. Integrating mental health into climate adaptation planning is essential for supporting communities facing compounding risks and long-term disruption.

Benjamin Norris, UQ School of Public Health

Benjamin is a second-year PhD student at the Institute for Social Science Research, University of Queensland. His research focuses on building a climate-responsive mental health service ecosystem through three studies: a scoping review of services used in climate-related events, a Q Methodology study exploring stakeholder perspectives, and simulations to test guidelines developed from the findings.

Before starting his PhD in 2023, Ben spent over 36 years in Queensland Health, beginning as an Alcohol and Drug clinician and concluding as Manager of the Mental Health Drought and Disaster Team. His extensive experience gives him a deep understanding of effective mental health policies and programs.

CALD communities

Abstract: This study explores how to design culturally inclusive disaster management strategies for CALD communities, especially newly arrived migrants and refugees in Queensland. Using a mixed methods approach, it integrates global program analysis, stakeholder interviews, and GIS-based spatial vulnerability mapping. The literature review highlights recurring practices such as community involvement, culturally reviewed translations, and workforce cultural competence.

Fieldwork in Southeast Queensland identifies intersections of social risk and climate hazards, enabling co-designed, locally relevant solutions. The research aims to guide agencies toward place-specific, culturally safe strategies that communities can sustain and adapt.

Windie Perwira Sari, Griffith University

Windie is a PhD candidate at Griffith University's Centre for Environment and Population Health. She collaborates with the Australian Red Cross, local councils, and service providers to support culturally and linguistically diverse (CALD) communities in Queensland.

Her work combines qualitative interviews, community engagement, and GIS-based vulnerability mapping. Windie presented her research at Federation of Ethnic Communities Councils of Australia 2024 and previously worked as a Geospatial Analyst in Indonesia and New Zealand. She enjoys connecting research with practical community outcomes.

Assessing ornamental plant flammability for building safety

Abstract: Ornamental plants can increase building vulnerability during bushfires, yet the Australian Standard AS 3959 lacks guidance on safe separation distances. This study addresses that gap by developing and validating a Fire Dynamics Simulator (FDS) model based on lab-scale fire tests of Lilly Pilly (Syzygium smithii), a common hedge species.

Using point cloud geometry from multi-angle photos, the model accurately predicted mass loss, temperature, and radiant heat flux. A parametric study then assessed safe separation distances for various hedge sizes and cladding materials, offering practical recommendations for fire-safe landscaping in bushfire-prone areas.

Thanirosan Krishnakumar, Queensland University of Technology

Thanirosan is a civil and structural engineer and a PhD candidate at the Wind and Fire Lab, Queensland University of Technology (QUT). He holds a Bachelor of Science in Engineering (Hons) from the University of Moratuwa, Sri Lanka, and a master's degree in Structural Engineering from the Asian Institute of Technology, Thailand. Prior to commencing his PhD, he spent a year as a university lecturer. His research investigates bushfire risk to buildings, combining laboratory experiments with computational fluid dynamics (CFD) modelling to enhance structural resilience.

Advancing accessible emergency communication: co-designing digital solutions for deaf and hard of hearing (DHH) communities in Queensland

Abstract: This study explores the urgent need for accessible emergency communication for Deaf and Hard of Hearing (DHH) communities in Queensland. Using a qualitative, co-design approach, it engages DHH individuals and stakeholders to assess current tools, identify barriers, and develop inclusive digital frameworks. By centering lived experiences, the research aims to create practical solutions that enhance emergency response and ensure equitable access to vital information.

Pallav Pant, Griffith University

Pallav is an international PhD candidate at Griffith University and a recipient of the Disability Scholars Research Scholarship. His research focuses on co-designing digital solutions to improve accessible emergency communication for Deaf and Hard of Hearing communities in Queensland.

He is recognised for pioneering work in Disability-Inclusive Disaster Risk Reduction (DIDRR), including leading the development of Nepal's first Disability-Inclusive Get Ready Guidebook, adopted by the Ministry of Home Affairs. He has also created digital tools such as the "BACHAU" SOS app and the DIDRR Resource Book.

With a background in crisis management, mass communication, and journalism, he brings expertise in co-design, policy advocacy, and inclusive project implementation across Asia and Australia. His contributions have earned international recognition, including a SASAKAWA Award shortlist and the QUT Impact Stories Award.

Component-level fire resistance of foam concrete

Abstract: The increasing frequency of building fires and bushfires, alongside a shift to lightweight construction, has driven interest in fire-resistant materials. Foam concrete (FC), a lightweight cement-based composite, offers promising thermal and structural performance. This study assessed the fire resistance and post-fire behaviour of FC blocks under standard fire and bushfire flame zone (BAL-FZ) conditions. FC 1200 (pumice sand) and FC 1600 (river sand) outperformed traditional mortars, maintaining integrity up to 180 minutes and after repeated BAL-FZ exposure. Findings support FC 1200 for non-load bearing cladding and FC 1600 for light load-bearing walls in fire-resistant construction.

Branavan Arulmoly, University of Technology

Branavan Arulmoly is a Civil Engineering graduate, holding a Bachelor of Science in Engineering (Honours) from the University of Ruhuna, Sri Lanka. He later completed a Master of Philosophy at the University of Sri Jayewardenepura.

Branavan gained industry experience through nearly a year in the construction sector, followed by three years as a Student Demonstrator and two years as a Lecturer in Structural Engineering and Building Materials. He is currently pursuing a PhD at Queensland University of Technology (QUT) in Brisbane, Australia.

Childbearing women and infants in disasters: Findings from Queensland

Abstract: Disasters pose serious risks to maternal and infant health, with continuity of care helping to reduce stress-related complications. This case study in Queensland, Australia, a well-resourced, disaster-prone state, examines maternity care within emergency management systems. Despite strong healthcare and disaster response frameworks, findings reveal that maternity care is largely overlooked in disaster planning. As a result, care standards drop during crises, relying on the resilience and improvisation of mothers and frontline staff.

Elena Skoko, Queensland University of Technology and Natural Hazards Research Australia

Elena (PhD candidate) is a researcher, multidisciplinary artist, and activist focused on maternity care, disasters, obstetric violence, and maternal gift economy.

With 15 years of experience in international advocacy and citizen research, she is completing a PhD in Public Health at Queensland University of Technology, (QUT, Brisbane, Australia), with a thesis on “Maternity Care in Disasters: New Frameworks for Immediate Action.” Her PhD research project is funded and supported by QUT and NHRA.

A justice-based approach to climate-related planned relocation

Abstract: Australia's coastal communities face growing risks from climate hazards like sea-level rise, erosion, and storm surge. In areas where protection or accommodation strategies may no longer be viable, governments are exploring planned relocation or managed retreat. While these programs aim to reduce risk, they often encounter political, legal, social, and cultural challenges, leading to community resistance and potential losses. This research will review national policies across all levels of government and conduct community case studies to develop a justice-based framework for planned relocation, ensuring programs are fair, inclusive, and responsive to community needs.

Carolyn Lambert, Queensland University of Technology and Natural Hazards Research Australia

Carolyn is a Natural Hazards Research Australia scholarship holder and PhD candidate at Queensland University of Technology, researching justice-based approaches to climate-related planned relocation. She brings a multidisciplinary background in program management, communications, and administration across the not-for-profit and tertiary sectors, including roles with ANU, QUT, UN Global Compact Cities Programme, and Village Well. Carolyn holds a Master of Communications (Deakin), a Master of Disaster, Design and Development (RMIT), and Graduate Certificates in Climate Policy and Disaster Risk Science (ANU). Passionate about place-based resilience, she is currently working with USC on coastal adaptation policy impacts and is an active member of IAP2's Emergency Management Community of Practice and the Creative Recovery Network.

Irrigated green firebreaks

Abstract: Green Firebreaks, areas of less flammable vegetation, are a proactive tool to reduce wildfire spread and intensity. However, under extreme climate conditions, even these can become fuel. While drought is a greater driver of wildfire risk than fuel load, the role of water management in mitigation remains underexplored. This thesis identifies opportunities for consistent irrigation in the wildland-urban interface, supporting the concept of Irrigated Green Firebreaks. Using fire spread modelling, it demonstrates that irrigated, less flammable vegetation can reduce fire spread and intensity, even under extreme drought and fire weather. The findings offer a theoretical proof of concept for integrating water reuse and irrigation into wildfire management, particularly in places like Noosa. The next step is real-world testing across diverse landscapes.

Jady Smith, University of the Sunshine Coast and Natural Hazards Research Australia

Jady has worn many hats throughout his career, beginning in ecotourism at Australian resorts before moving into international development. His work has spanned diverse projects, including Cambodia's first biodiversity policy, agro biodiversity in Laos, marine protection in Vietnam, sanitation in Indonesia, post-tsunami recovery in the Maldives, REDD+ initiatives in Thailand, and heritage management in Papua New Guinea and the Solomon Islands.

For over two decades, he has supported efforts in Cambodia to mitigate floods and droughts while enhancing community livelihoods around the Angkor World Heritage site. Drawing on his wide-ranging experience, Jady continues to learn from nature. Today, he shares his research on how water management particularly through irrigated green firebreaks can complement wildfire mitigation strategies.

Mapping Australia's cyclone risk: A climatology-based approach

Abstract: Australia experiences varying levels of exposure to tropical cyclones across its regions. This study analyses historical cyclone records to explore the spatial variability of cyclone genesis and presents the climatological probability of cyclone impact for each Local Government Area. The focus is on the early stages of the cyclone lifecycle, offering insights into regional vulnerability and informing disaster preparedness strategies.

Adolfo Lugo Rios, Queensland University of Technology

Adolfo Lugo is a Research Fellow in Marine and Geospatial Sciences at the Queensland University of Technology and a contributor to the Reef Restoration and Adaptation Program. His current research focuses on the impacts of tropical cyclones in Australia, particularly their effects on the Great Barrier Reef.

He holds a PhD in Atmospheric Sciences from the University at Albany, New York, where he studied hurricane formation in the Eastern Pacific. With a background in physics, Adolfo is passionate about advancing the understanding of tropical cyclone formation, development, and impacts through numerical modelling and historical data analysis.

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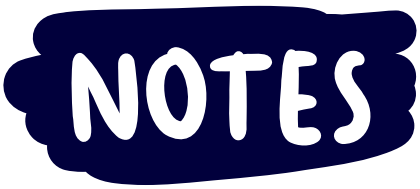
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