



Lessons Management Forum 2025

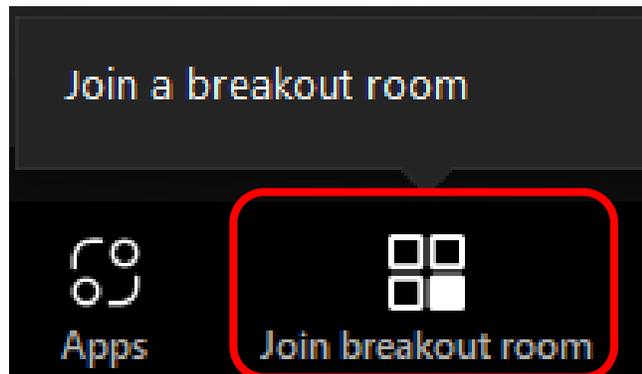
DAY 3 | 22 May 2025

Welcome

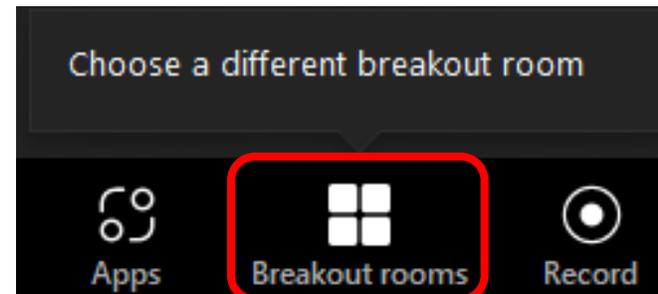


Break-out rooms are now open.

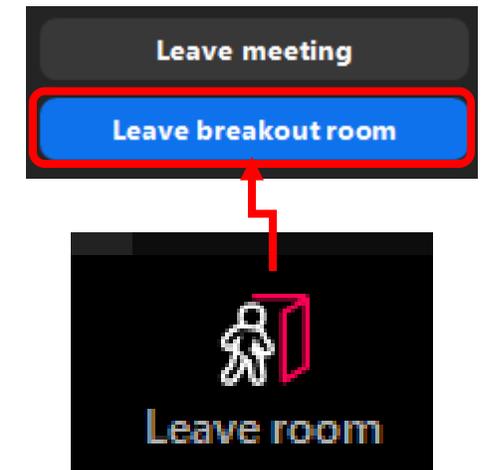
Feel free to join any of our break-out rooms and interact with the other online delegates.



To join from the main presentation room.



To change breakout rooms.



To return to main presentation room.

Lessons Management Forum 2025



Thank you for joining us.

Please take your seats, we will begin in 5-minutes.



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Acknowledgement of Country

AFAC and AIDR would like to acknowledge the traditional owners of Aotearoa / New Zealand and Australia.

We acknowledge the Treaty Partners in Aotearoa / New Zealand and in particular the local iwi and environment of the Te Āti Awa people – tēnā koutou katoa.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters across Australia.

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Gold Sponsor



Australian Government

Australian Civil-Military Centre

Silver Sponsor



**National Emergency
Management Agency**

Te Rākau Whakamarumarū
Aotearoa New Zealand

Lessons Management Forum 2025



Welcome

Des Hosie

National Advisor for Safety, Continuous Improvement and Lessons Management

Fire & Emergency New Zealand



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Chocolate Fish



House Keeping

- Please ensure all phones are switched to silent and microphones are muted.
- In the case of an emergency, please follow staff instructions.
- We will be using Slido for all Q&A throughout the event.
- The forum will be recorded and made available with slides after the event concludes.



Slido.com
Code: LMF25

1.05pm – Presentation 12

The Journey from Uncertainty to Opportunity: Lessons Management and Positive Risk

Alistair Dawson

Office of the Inspector-General of Emergency Management, Queensland

The journey from uncertainty to opportunity

Alistair Dawson APM

Inspector-General of Emergency Management

Inspector-General of
Emergency Management



Queensland
Government

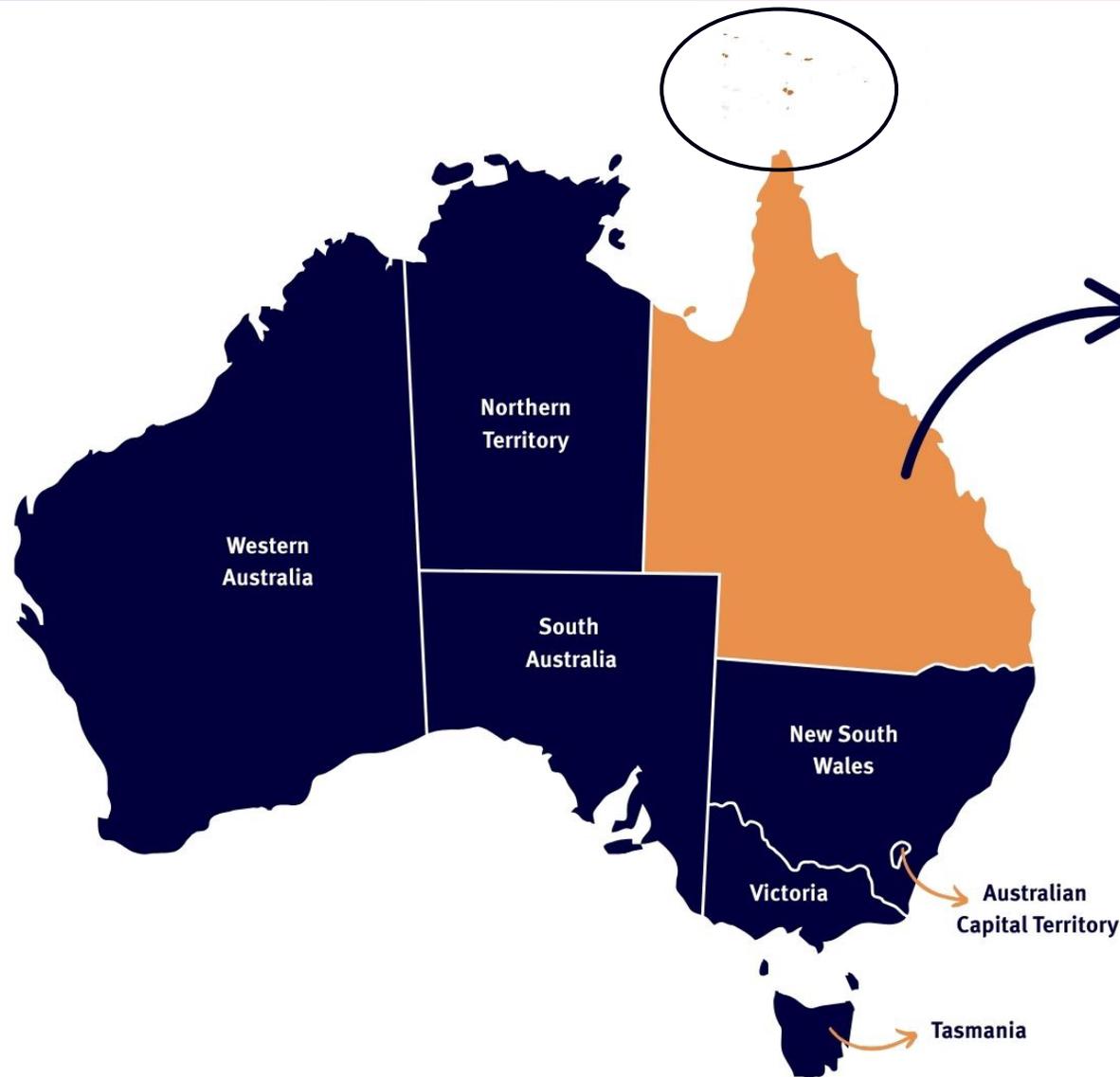
Acknowledgement of Country

We would like to mihi or acknowledge the Treaty Partners in Aotearoa/ New Zealand and in particular the local iwi and environment of the Te Āti Awa people – tēnā koutou katoa.

We acknowledge the Australian Aboriginal peoples and Torres Strait Islander peoples as the Traditional Owners and Custodians of Country.

We recognise and honour their ancient cultures, and their connection to land, sea and community.

We pay our respect to them, their cultures, and to their Elders past and present.



-  **Queensland at a glance**
-  **Population: 5.5 million**
-  **Area: 1.73 million km² (second-largest state in Australia)**
-  **Coastline: 7,400 km of stunning shoreline**
-  **Borders: New South Wales, South Australia, Northern Territory**
-  **International Border: Torres Strait Islands share a maritime boundary with Papua New Guinea**

Office of the IGEM

Provides Queensland Government and the community with assurance in our disaster management arrangements by:

Implementing the
*Standard for Disaster
Management in
Queensland.*

Reviewing and assessing
the effectiveness of
disaster management.

Bringing together the
disaster management
sector to focus collective
efforts on enhancing
capability.

Office functions are prescribed in the *Disaster Management Act 2003*.

Positive risk: a shift in mindset



- Risk often seen as a threat – but it can be opportunity
- Foresight & adaptability are critical
- Disaster context is concurrent, cascading, & complex
- We can't afford to pause – learning must be continuous & embedded
- “Set and forget” no longer works in a dynamic risk environment

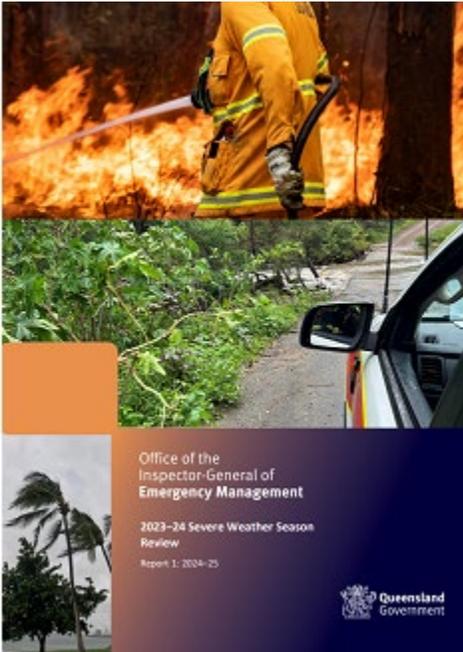
"In preparing for battle I have always found that plans are useless, but planning is indispensable."

- General Dwight D. Eisenhower

"We do not learn from experience... we learn from reflecting on experience."

- John Dewey

Timeline of DRFA activated severe weather events

	Oct-2023	Nov-2023	Dec-2023	Jan-2024	Feb-2024	Mar-2024	Apr-2024
 <p>Office of the Inspector-General of Emergency Management</p> <p>2023–24 Severe Weather Season Review</p> <p>Report 1: 2024–25</p> 	Southern Queensland bushfires 8 September – 7 November 2023						
	Northern Queensland bushfires 18 October – 8 December 2023						
	Mount Isa bushfire 23 October – 1 November 2023						
	The Pines and Condamine Farms bushfire 19 November – 1 December 2023						
	Queensland low-pressure trough 20 November – 1 December 2023						
			Tropical Cyclone Jasper, associated rainfall and flooding 13–28 December 2023				
			Brisbane and Ipswich severe storms 15–16 December 2023				
			South Queensland severe storms and rainfall 24 December 2023 – 3 January 2024				
					South West Queensland flooding 6–23 January 2024		
					North Queensland monsoon trough 12–22 January 2024		
				Tropical Cyclone Kirrily, associated rainfall and flooding 25 January – 26 February 2024		Western Queensland rainfall and flooding 22 March – 20 April 2024	

The Changing Face of Crises – Complicated vs Complex

Complicated problems originate from causes that can be individually distinguished. They can be addressed piece by piece for each input to the system there is a proportionate output. The relevant systems can be controlled and the problems they present admit permanent solutions.

Complex problems result from networks of multiple interacting causes that cannot be individually distinguished. They cannot be addressed in a piecemeal way, and they are such that small inputs may result in disproportionate effects. The problems they present cannot be solved once and forever but need to be systematically managed.

Poli, R. (2022). Working with the future: Ideas and tools to govern uncertainty. EGEA spa). As cited in the Crisis Appreciation and Strategic Planning (CASPP), NEMA, November 2024

Evolving our MER Program: enhancing insights and transparency



Monitoring, legal and evaluation (MER) program maturation to better capture qualitative insights



Shift from "Cabinet in confidence" to "sector in confidence"



Enhancement of transparency & shared responsibility within the disaster management sector



Focus on lessons not easily seen – cultural shifts, partnerships, & behaviour change

Future of Lessons Management: embracing uncertainty & positive risk

01

Embrace uncertainty as a learning environment

02

Balance real-time learning with strategic planning

03

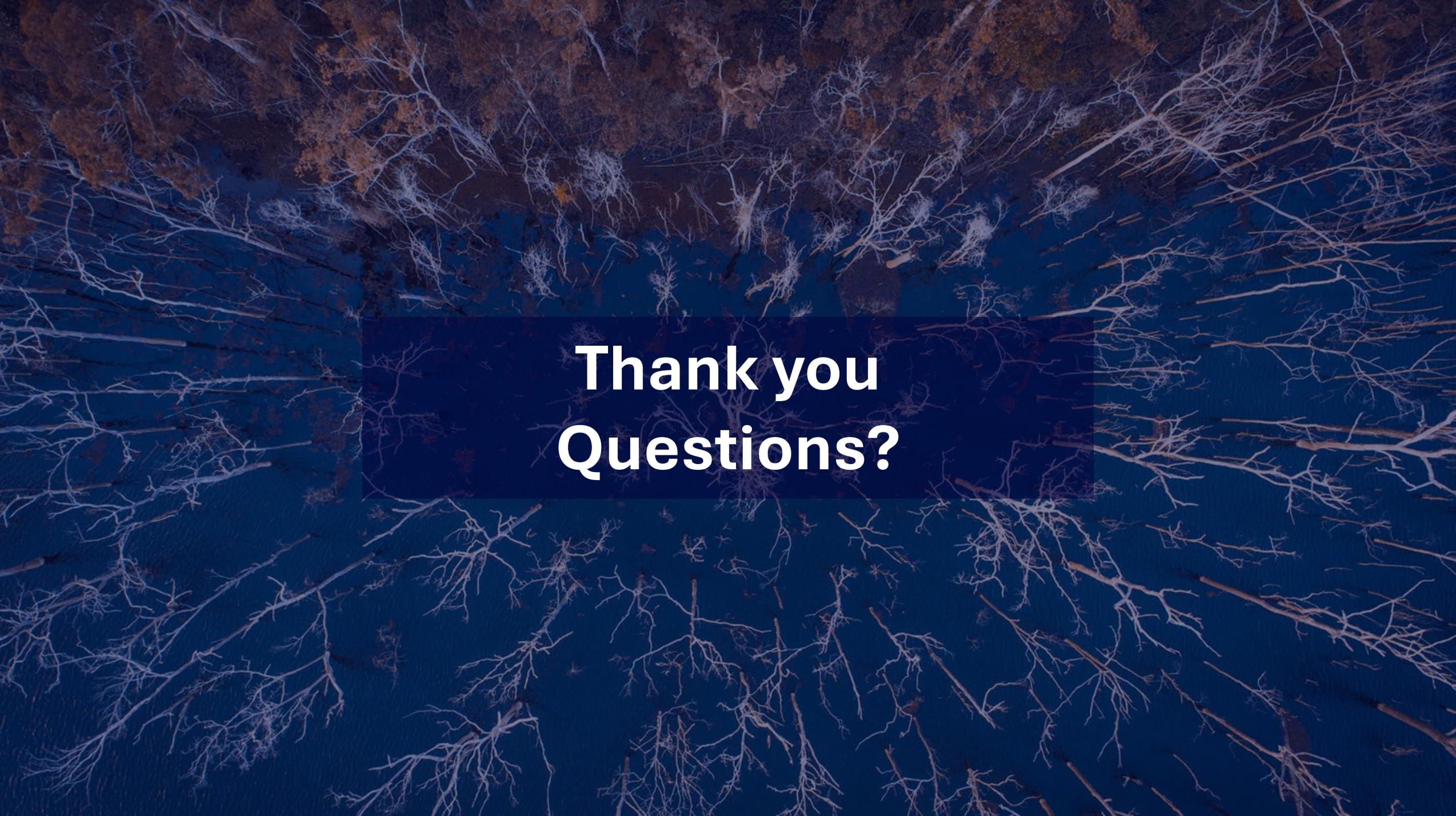
Foster a culture of positive risk-taking & innovation

04

Value & integrate qualitative insights

05

Keep lessons active, relevant, & evolving



**Thank you
Questions?**

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Q&A

Don't forget to add you questions to Slido.
Make sure to select:

● Day 3 | 1.05pm – Presentation 12



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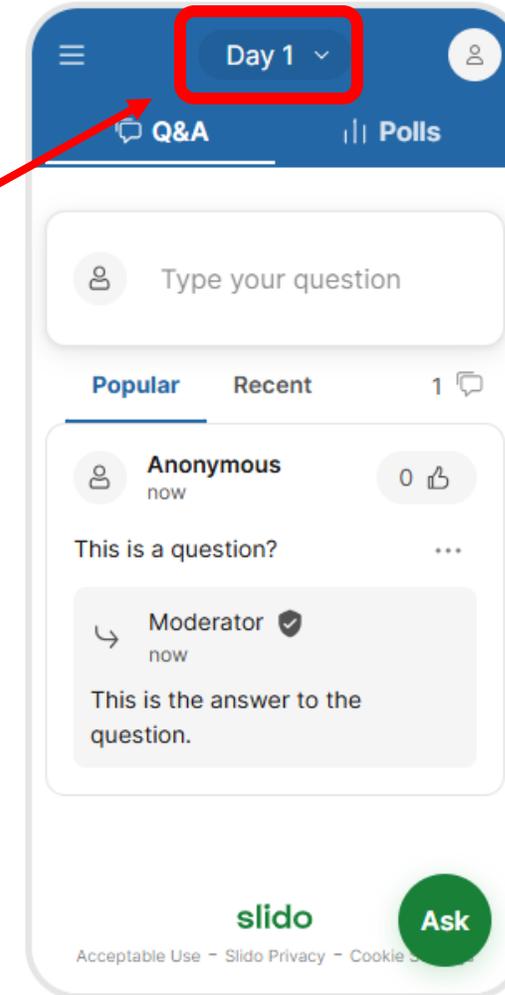
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“When will my question be answered?”

- After each presentation, our speakers will go to Slido to finish answering all their questions.
- You can read these answers by clicking on the top bubble and selecting the Day and time of the presentation you are looking for.



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1.35pm – Presentation 13

How Victoria's Inspector-General for Emergency Management is applying a strategic lens to tailor its assurance and continuous improvement methods

Dr Lauren Banting

Office of the Inspector-General for Emergency Management, Victoria

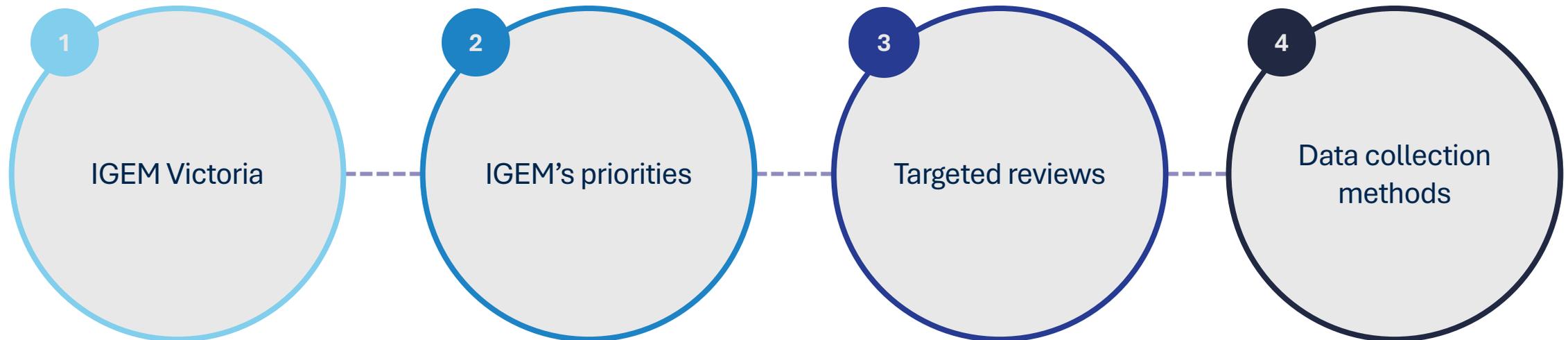


How IGEM Victoria is applying a strategic lens to tailor its assurance and continuous improvement methods

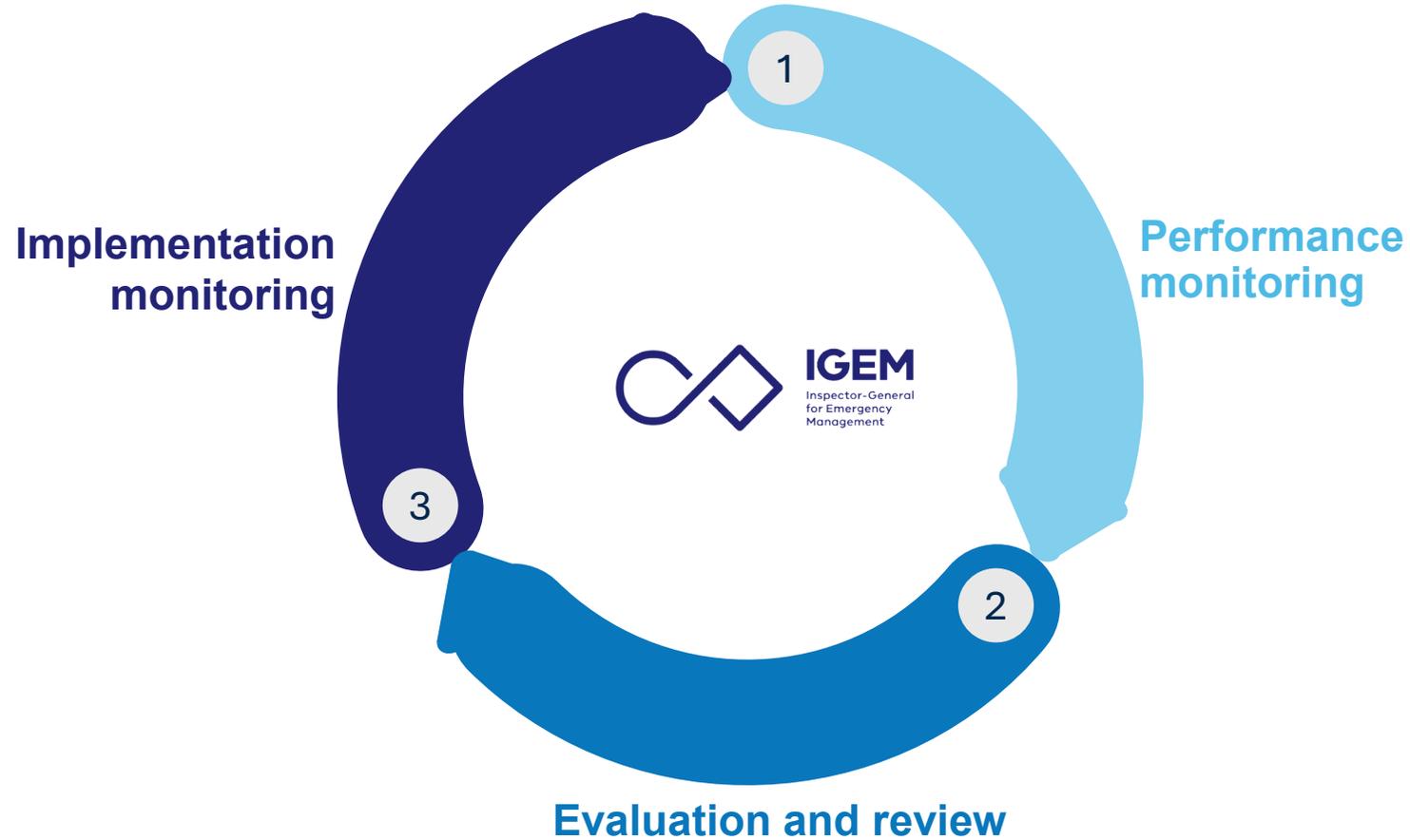
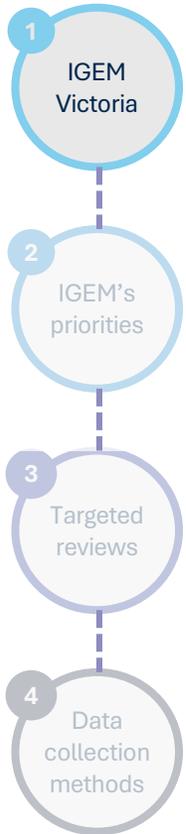
Lauren Banting, Program Lead Evaluation and Review
Inspector-General for Emergency Management (IGEM)



Overview



What is IGEM?

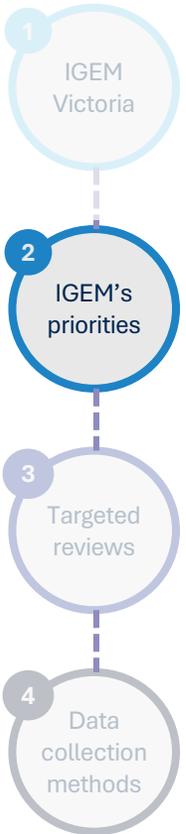


2024 marked 10 years since the establishment of the IGEM Victoria

Over that time the emergency management sector has changed significantly. So too have the risks that all Victorians face from increasingly frequent and severe emergencies.

How can IGEM's system-wide reviews provide better assurance and support greater continuous improvement?

What is changing around us?



1
Increasing severity
and frequency of
emergencies



2
Changing
community
expectations

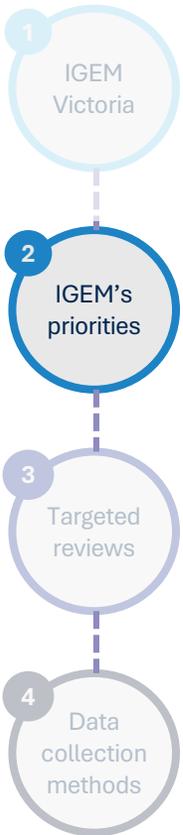


3
More complex
consequences



4
Challenging
financial
environment

What should our role be?

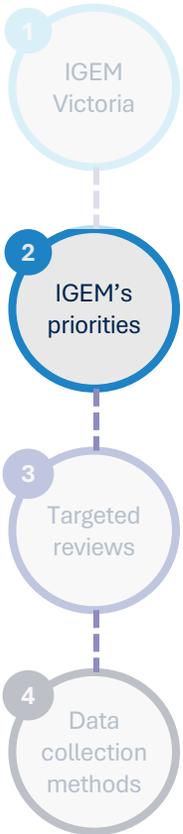


<p>1</p> <p>Support the sector to address current & emerging system-level risks</p>	<p>2</p> <p>Provide modern and streamlined system-level assurance</p>	<p>3</p> <p>Support the continuous improvement of sector institutional practices</p>	<p>4</p> <p>Deliver accessible products that provide impact & value</p>
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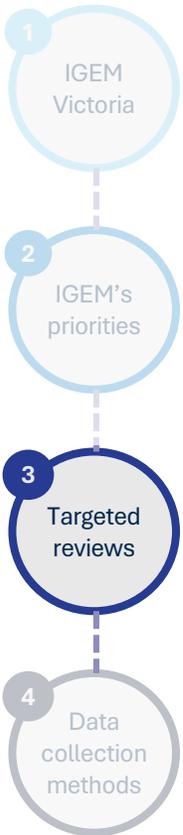
What should we focus on?

Assurance and continuous improvement priorities

- Training and exercising
- Community preparedness
- Recovery
- Managing consequences



How do we select our review topics?



What valuable contribution can IGEN make?

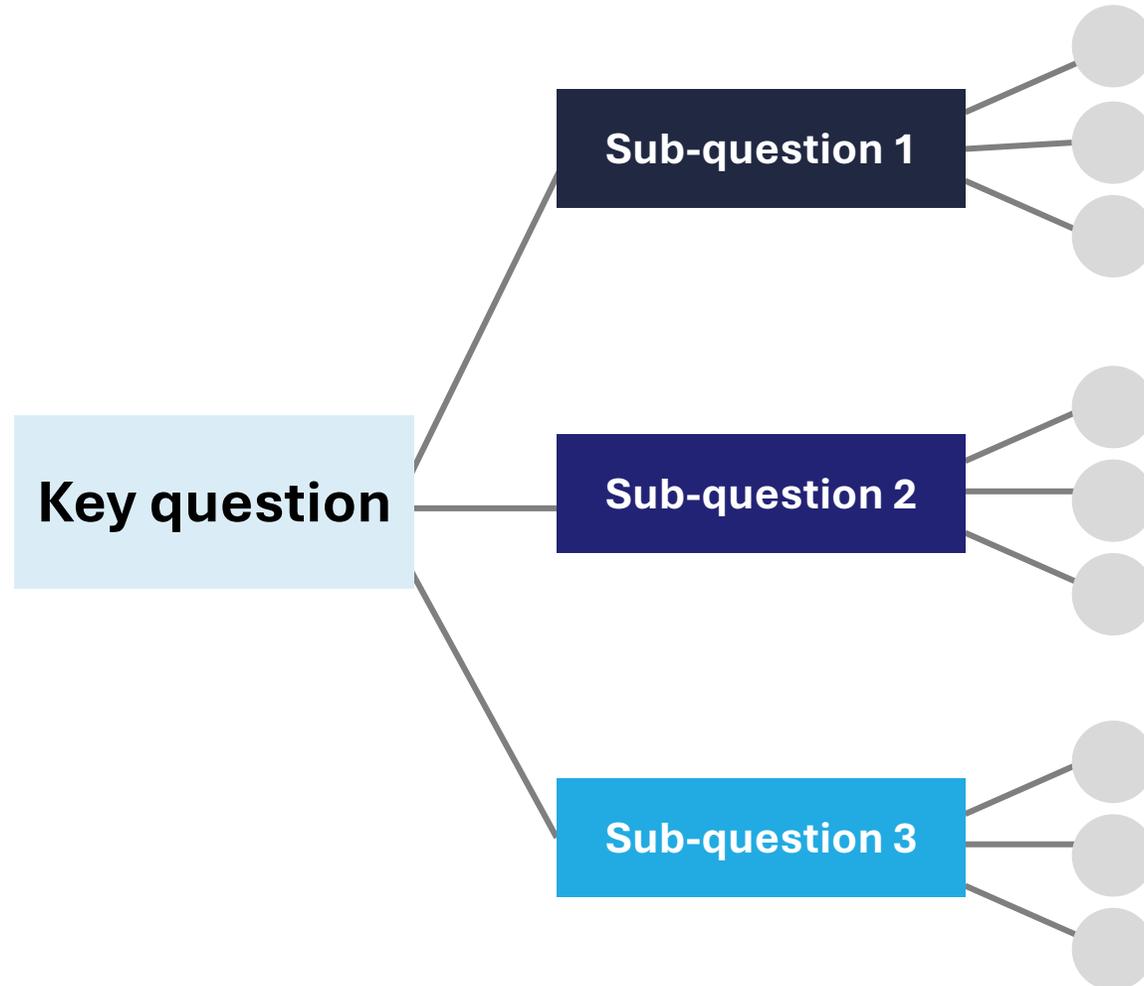
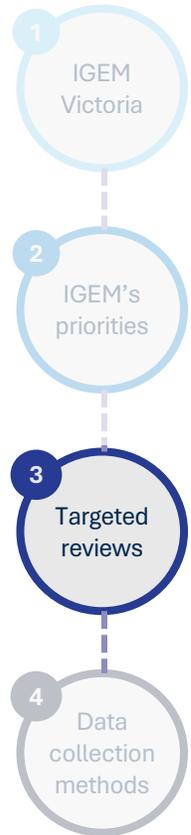


What should our review look at?



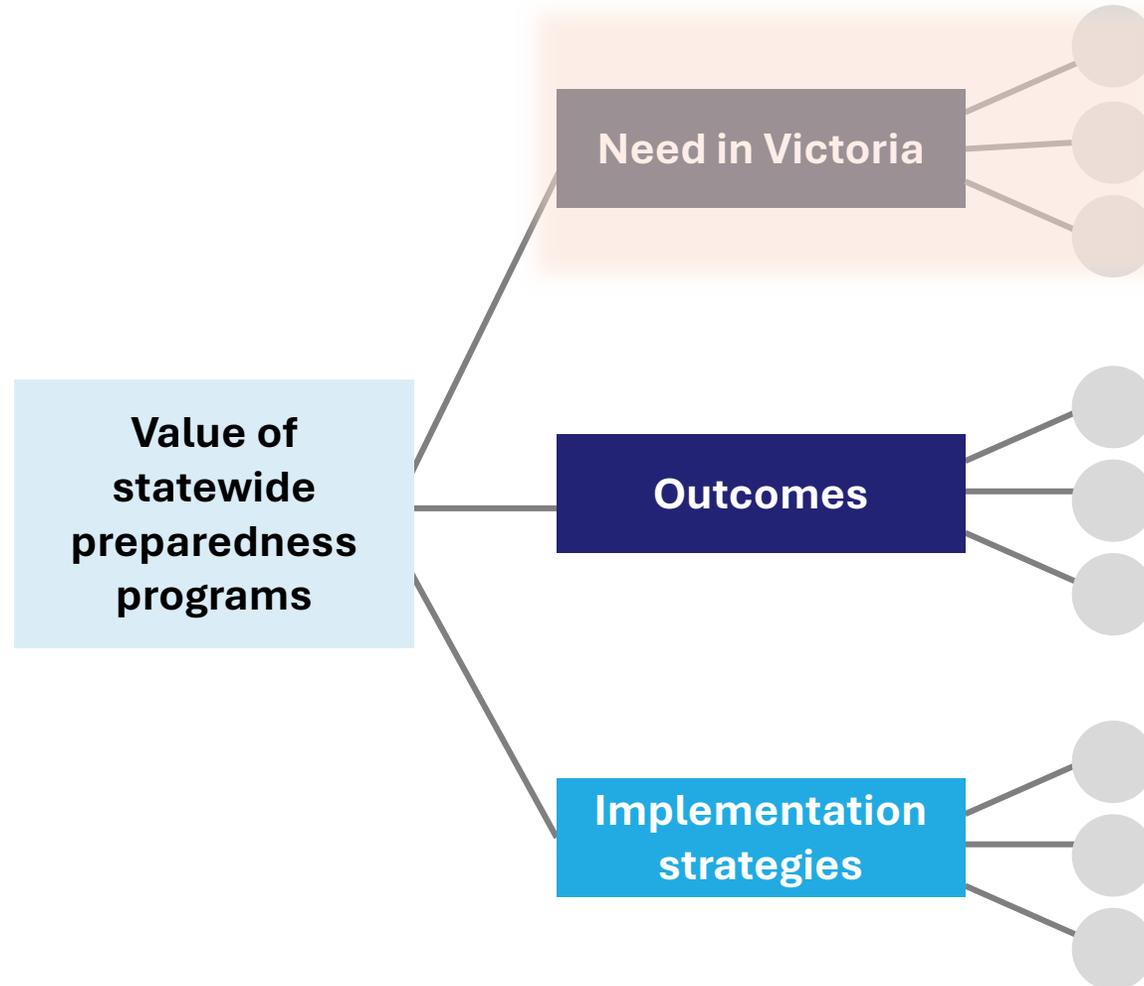
What evidence will help us understand the issue?

What questions are we asking?



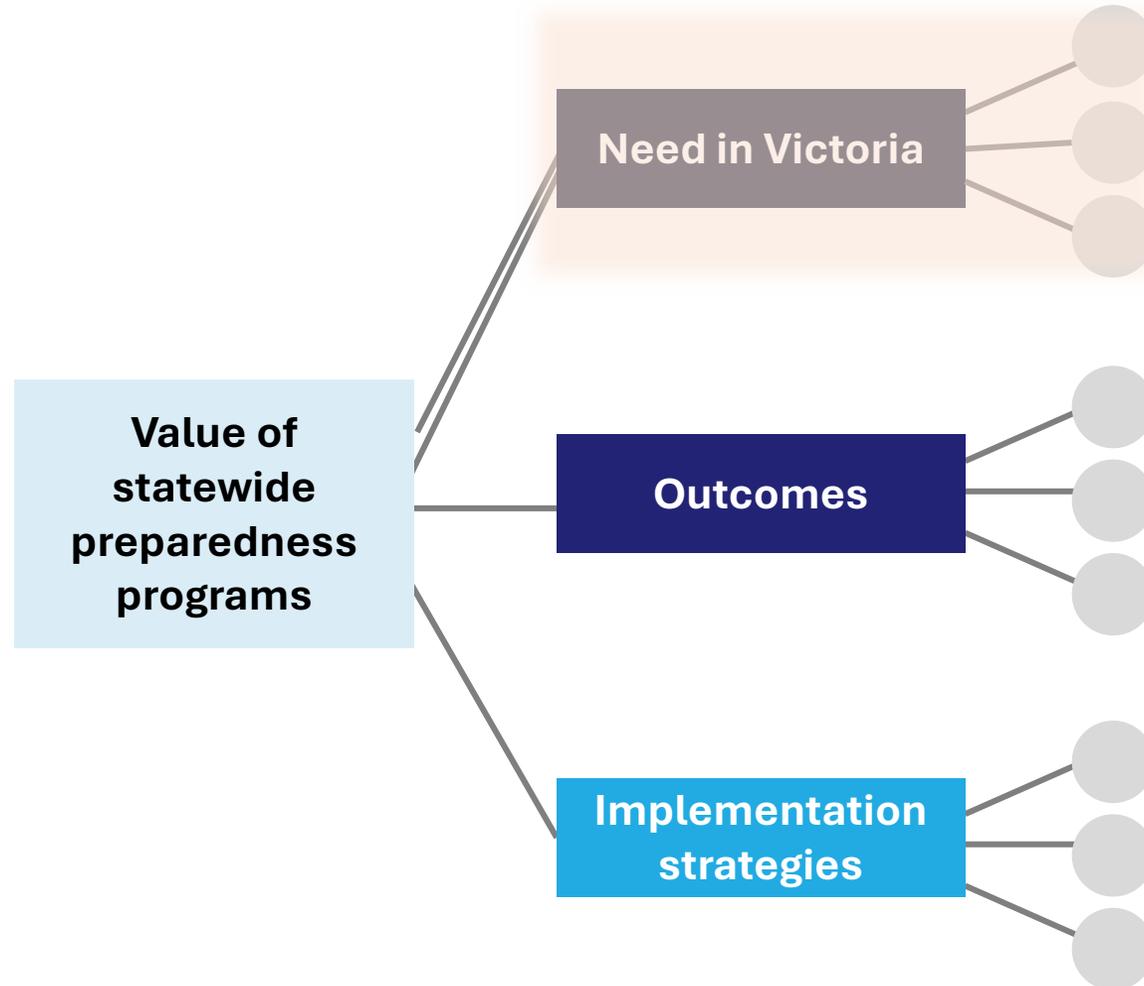
What questions are we asking?

- 1 IGEM Victoria
- 2 IGEM's priorities
- 3 Targeted reviews
- 4 Data collection methods

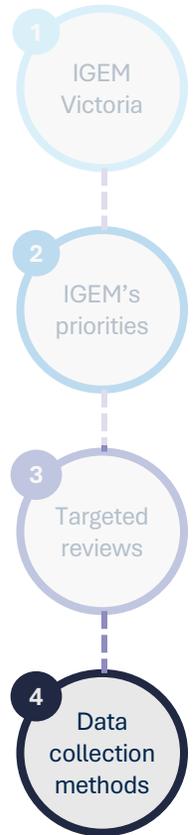


What questions are we asking?

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- 3 Targeted reviews
- 4 Data collection methods



How do we select the best methodology for the review?



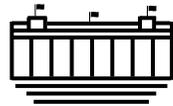
Broad, thematic reviews



Post-incident reviews



Inter-jurisdictional comparisons



Policy and program evaluation

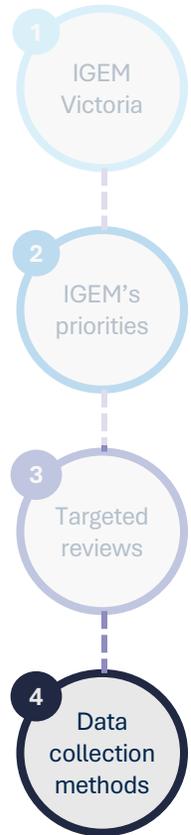


Case studies



Research translation

What type of data best answers the key review question?



Document analysis



Interviews



Surveys



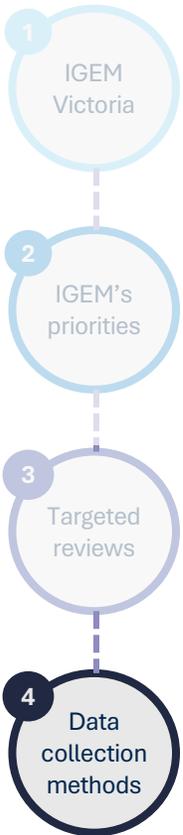
Observation



Literature reviews



Is the data compelling, accurate and collectable?



Document analysis



- Accurate
- High burden
- Not compelling in isolation

Interviews

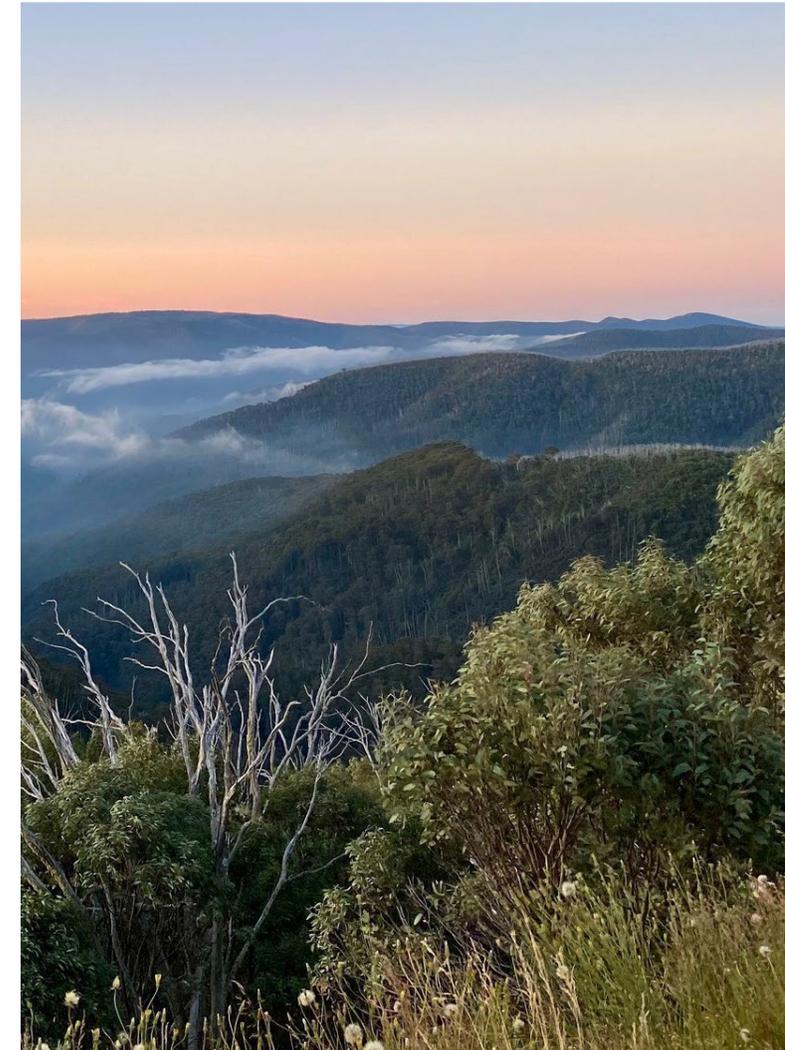


- Leadership perspective vs On the ground
- Organisational view vs Individual
- Can feel incomplete

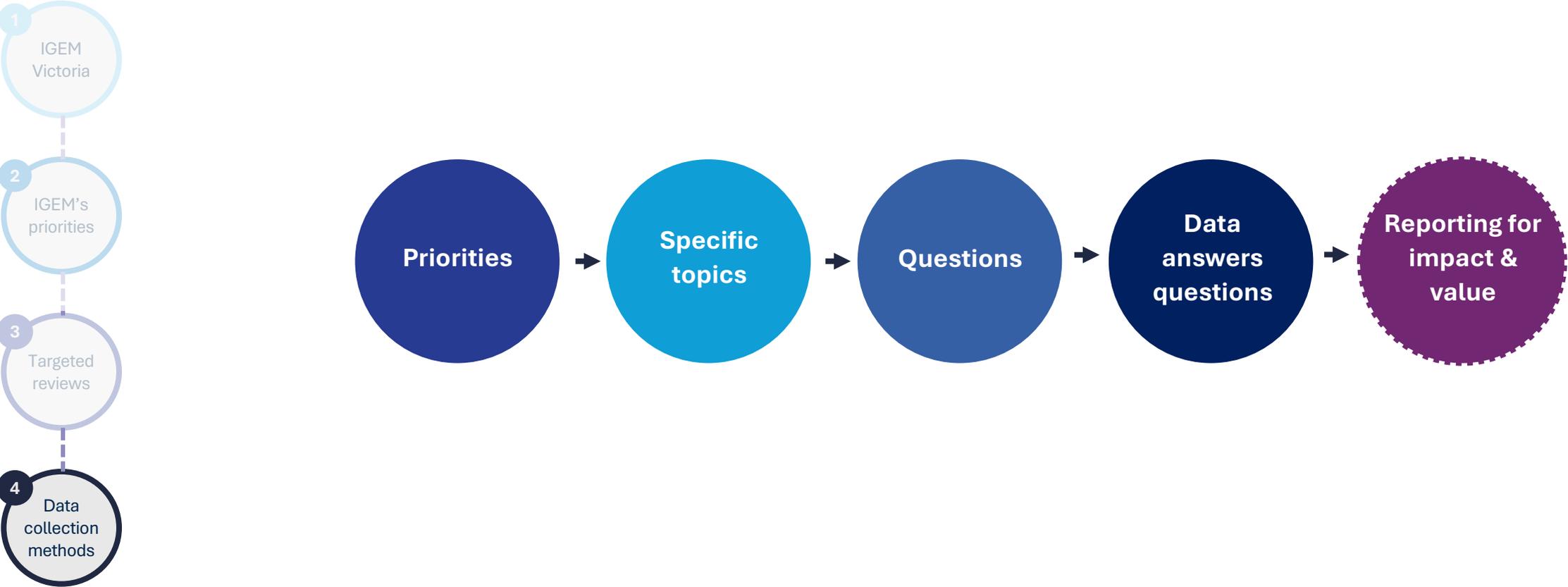
Surveys



- Numerical data is compelling
- Data requires colour
- Believability of statistics



How do we get buy-in and change?



igem.vic.gov.au

Lessons Management Forum 2025



Q&A

Don't forget to add your questions to Slido.
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Forum break

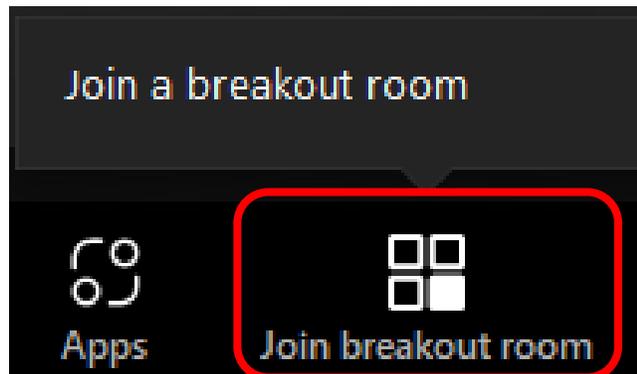
We will now be taking a short break.

Please rejoin us at:

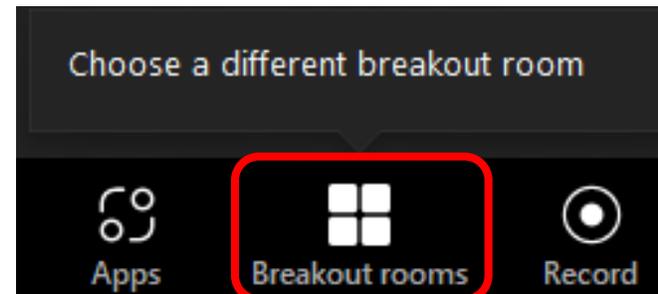
- 2.15pm NZST
- 12.15pm AEST
- 11.45am ACST
- 10.15am AWST

Break-out rooms are now open.

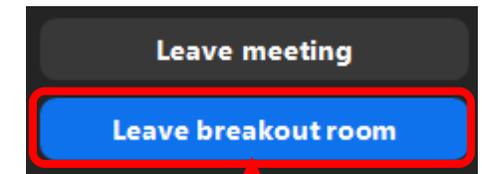
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To join from the main presentation room.



To change breakout rooms.



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2.15pm – Presentation 14

Beyond After-Action Reviews: The application of Lessons Management methodology to agency-wide operational improvement success.

Andy McQuie

NSW National Parks and Wildlife Service



Beyond After-Action Reviews: The application of Lessons Management methodology to agency-wide operational improvement success.

Andy McQuie, Senior Project Officer - Operational Improvement, NSW National Parks and Wildlife Service



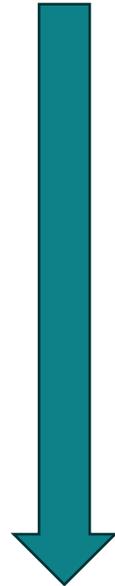


Department of Climate Change, Energy, the Environment and Water

Identify an improvement



No good
OK
Good
Better
Best



What is it now?
What will be improved?
How / why will it be applied?

Who will it benefit?
Who owns it?
Who has a stake?
Who pays for it?

Stakeholder analysis



Stakeholder analysis gives us an understanding of who all the players are:

- end users
- business owners
- sponsors
- who's looking over the fence



It is important to avoid hearing just the loudest voices or the squeakiest wheels on the bus.

Stakeholder analysis



- Who are they?
- What role they play?
- What's their level of interest?
- What's their degree of influence?
- Where do they sit on the engagement spectrum?
- How do they like to communicate?
 - channel
 - language
 - frequency
 - timing

		INCREASING IMPACT ON THE DECISION 				
		INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL		To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
	PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

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“the right people, in the right place, at the right time, with the right communications channels”

Not unlike the original 5 Ps of the marketing - Product, Price, Place, Promotion, and People

Department of Climate Change, Energy, the Environment and Water

(surround yourself with) **Stakeholder champions**



- First follower
- Proven early adopters
- Leaders
- Career minded
- Interests align
- Business owners
- End-users





What is a 'Business owner'

- Willingly accepts their role as the Business Owner.
- Allocates staff to the project.
- Provides supporting information to an AAR, research project, innovation, technology trial
- Provides expert advice
- Addresses recommendations
- Determines the best outputs

What is an 'End-User'

- Directly or indirectly benefit from the change
- Can be recommended at the AAR planning stage

Stakeholder blockers



- No personal interest
- Conflicts
- Not a priority
- No Funding
- No staff



‘It won’t help us’ ‘It’ll never work’

It may be possible to use the champions to sway the blockers

2019/2020 Fire Season



2019/20 Fire Season AAR

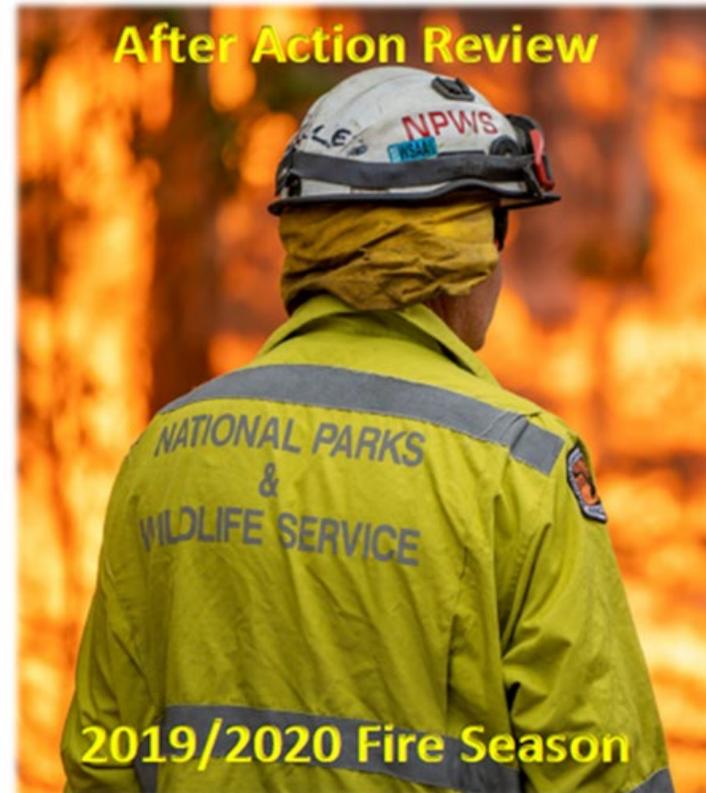


Lessons Learned



30 After Action Reviews

3,736 observations



2019/20 Fire Season AAR - Actions



- 14 have become business as usual or a discreet project - CORE BUSINESS
- 7 updates to our Fire Management Manual - POLICY
- 6+ new intranet pages - RESOURCE INFORMATION
- 51 Fire Management Circulars - DIRECTIONS
- New Personal Protective Equipment and Radios - EQUIPMENT
- Vehicle safety upgrades - SAFETY
- Additional medical support - SUPPORT
- More training opportunities - CAPACITY BUILDING
- Better access to systems and data - SUPPORT
- Greater inter-agency collaboration - INTEROPERABILITY

Action Trackers

(for all AARs) are now on the NPWS intranet, available to all staff



ACTION TRACKER-2019/20 Fire Season - After Action Review							
Ref. No.	Recommendation	Action	Owner	Assignee	Target Date	Status	Notes
1	Investigate options to improve fire assessment and trigger tracking systems, in cooperation with current NPWS, EMS and AFD projects.	Proof of concept trial for CIMS4 has been completed.	Park Systems/Support	Colleen Pearson	Aug. 2021	complete	CIMS4 Asset and some of the CIMS4 data
		Full CIMS4 system to be introduced	Park Systems/Support	Colleen Pearson	Oct. 2021	in progress	
		Ensure CIMS4 system can integrate with my NPWS2019	Park Systems/Support	Colleen Pearson		not started	myNPWS requirements are different from CIMS4
2	Improve the design and use of business fire management strategies to better facilitate their use by NPWS for fire suppression planning, especially during L&I incidents	The new Business fire management strategy is producing a number of spatial-based packages to facilitate and influence operational planning processes including:	FOU Planning team	Colin Langford	FY21/22	in progress	Working with BOM to design and develop a fire planning which will include statements of fire management and business impact will develop user stories and requirements required for I&I, for integration into CIMS4
		NPWS CIMS4 / CIMS4 layers to facilitate NPWS influence during I&I	FOU Planning team	Colin Langford	FY21/22	in progress	CIMS4 data layer is an CIMS4 layer. Working with I&I to make layer more effective for I&I for suppression during fire events

Recommendation
 Action
 Business Owner
 Assignee
 Target Date
 Status
 Progress Notes

Communication

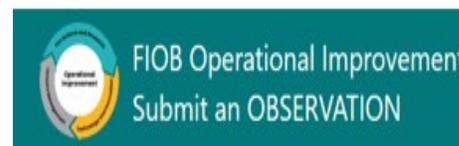


“Tell them 6 times, 6 different ways”

- Targeted emails
- Surveys
- Phone/ face-to-face
- Webpages
- Social media posts
- Annual special interest forums-fire management
- QR codes / posters in field depots
- Pre-season presentations
- Toolbox talks

Operational Improvement

- Lessons Management
- Fire Science and Research
- Technology and Innovation



New Staff Resources

2019/20 Fire Season AAR



Recommendation	Subject	Parksite link
1	Integration of a CRM	myWorkZone
2	Assets of Intergenerational Significance (AIS)	AIS Fire threat management
3	Statements of Fire Management Intent	Reserve Fire Management Strategies Redevelopment Project
5,6,7,10,14,18	Fire Management Manual updates	Fire Management Manual
22	Increased training opportunities	Capability and Training Unit
23	Aviation/ LATs	Aviation Unit
26	Rapid Lessons	Lessons Management-Rapid Lessons
27	Work Health and Safety	First aid and pre-hospital care
	Contract paramedics on standby	Procedure for deployment
28	Medical Emergency Response Procedures	MERP

Note- Recommendations 4, 8, 9,11,12,13,15,16,17,19, 20, 21, 24 and 25 are all now business as usual.

Case study



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Q&A

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2.45pm – Presentation 15

Shaping Lessons Learned with Artificial Intelligence

Inspector Bruce Budge

Queensland Fire Department



Shaping Lessons Learned with Artificial Intelligence (AI)



Learning

Curriculum provides firefighters with the foundational knowledge and skills necessary to perform their duties effectively.

However, ongoing operational experience plays a crucial role in reinforcing and expanding this knowledge.



Learning

Curriculum provides firefighters with the foundational knowledge and skills necessary to perform their duties effectively.

However, ongoing operational experience plays a crucial role in reinforcing and expanding this knowledge.



Learning

Additionally, After-Action Reviews (AAR) from incidents offer valuable insights that can be shared across the firefighting community.

This sharing of experience will ensure that lessons learned benefit all personnel and contribute to continuous improvement in operational effectiveness.



Current AAR

AAR tools in firefighting rely on:

- radio communication transcripts,
- electronic incident management software,
- video footage from cameras such as drones and media
- the account of personnel at the incident



AI's Role in Lessons Management

Real-time data analysis, pattern recognition, and predictive insights.

Streamlines documentation in areas such as doctrine and curriculum.

Enhances incident report analysis, trend identification, and training.



Use of Collected Data

RIMSAT 2005

Remote **I**ntelligence **M**anagement
Support **A**nd **T**raining



Use of Collected Data

AUDREY 2018

Assistant for **U**nderstanding **D**ata through **R**easoning, **E**xtraction
and **S**ynthesis



Another New Approach

Adapting AI-driven tools and Modelling & Simulation techniques from military training can significantly improve the use AARs for structure fire operations



Another New Approach

- Simulate battlefield environments with dynamic and adaptive behaviour based on troop actions.
- AI scans comms, and engagement logs to identify deviations, successful strategies, and common failure modes.



Another New Approach

- AI customizes training and feedback for soldiers based on individual performance data.
- The military integrates AI with command platforms to ensure lessons from exercises and real-world missions are rapidly disseminated and applied.



A New Approach

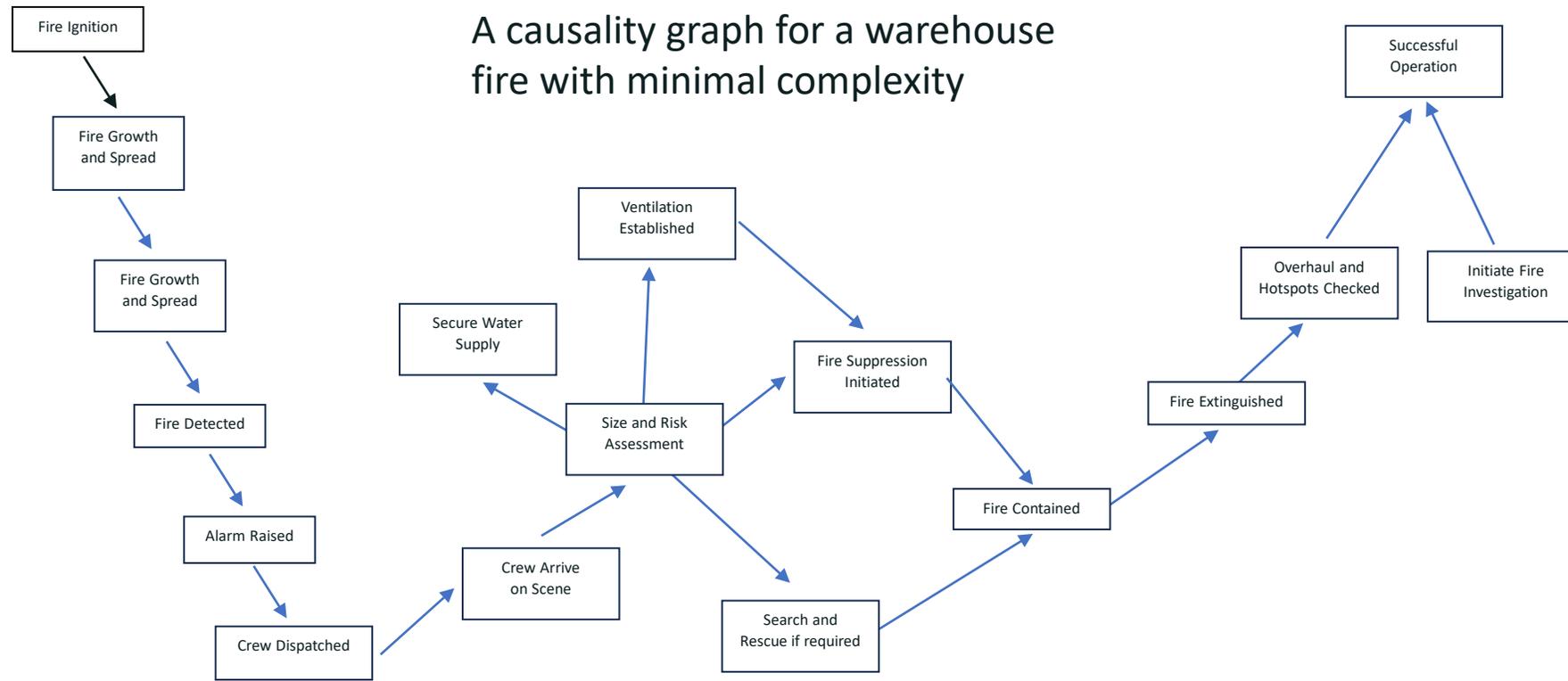
The Firefighting Tactical Review and Analysis System (FiTRAS) proposes three key initiatives:

- Narrative Reconstruction
- Interactive Scenario Exploration
- Automated Operational Diagrams



Narrative Reconstruction

AI-generated causality graphs illustrate key events, decision points, and their consequences, helping firefighters understand the impact of their actions.



Interactive Scenario Exploration

Fire crews can test alternative strategies, adjusting tactics to see how different choices might improve outcomes.

This is occurring with immersive learning with virtual reality.



Automated Operational Diagrams

Dynamic visuals depict fire spread, crew movements, hose-line placements, resource effectiveness, and tactical decisions over time.



AI for Lessons Management

Use AI to analyse past incidents and generate realistic simulations.

This approach will help identify patterns, predict hazards, and improve decision-making, ensuring lessons learned are effectively applied.



Potential of AI in Fire Services

AI can enhance training, refine tactics, and strengthen operational safety.

Reviewing previous incidents for lessons learned.

Adapting to future challenges such as electric vehicles.



Large Language Model.

A Large Language Model (LLM) is an AI system trained on vast amounts of text data to understand, generate, and process human language.



Large Language Model.

A ringfenced version of an LLM could be trained on internal data, including training materials, doctrine, and policy documents, and operates within a secure, isolated environment.



Large Language Model.

This ensures that the LLM generates accurate, relevant, and up-to-date content.

It can also be trained on After-Action Reviews both from inside and outside of the department.



Future Trends in AI

- Extended reality for immersive learning experiences such as Virtual Reality
- Cross-agency platforms for shared lessons.
- Enhanced preparedness, resilience, and outcomes in high-risk environments.



Comparison with Military Practices

- Military AI systems support adaptive learning and decision-making.
- Opportunities for Fire Services: Scenario planning and real-time insights.



Comparison with Military Practices

- One of the common methods used to prepare soldiers is called the war game. The NATO Glossary of Terms and Definitions AAP-6 (Edition 2021) defines the war game as: “*A simulation of a military operation in which participants seek to achieve a specified objective, given preestablished resources and constraints.*”



Path Forward

- AI can reshape lessons management with predictive insights and real-time data.
- Military practices provide a model for adaptive learning and collaboration.
- Future focus: Immersive learning, cross-agency AI platforms, and centralised databases.



Hindsight – 30 years ago

In 1995 a paper was written called “*Employing virtual reality to support decision making in emergency management*” by Giampiero E.G. Beroggi, Laurie Waisel, William A. Wallace

The purpose of this paper is twofold:

- (1) to provide the emergency management community with a pragmatic overview of virtual reality technology; and
- (2) to propose where the technology, as it emerges, could support problem solving and decision making in emergency management from prevention and mitigation to response and recovery.

References

- *RIMSAT DSS: Case & Model Based Reasoning*
- *AUDREY: An AI Case Study*
- *AI in Firefighting: Applications and Future*
- *Automated Reasoning in Tactical Stories*
- *Coordinating AI: Lessons from the US*
- *AI for After Action Review by Dr. Stephen Lucek*
- *NATO: Innovative Analysis Tools for AAR*

QUESTIONS

Lessons Management Forum 2025

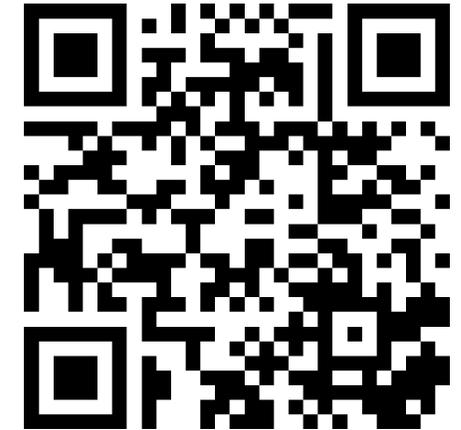


Q&A

Don't forget to add you questions to Slido.

Make sure to select:

● Day 3 | 2.45pm – Presentation 15



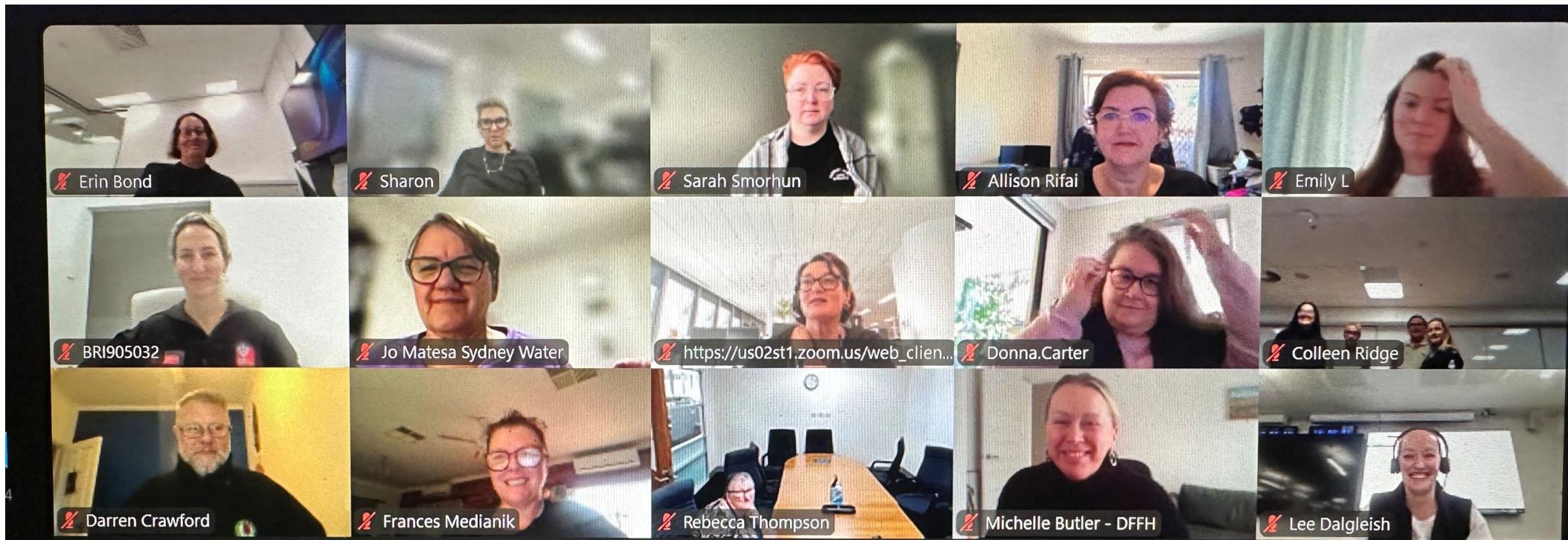
Slido.com
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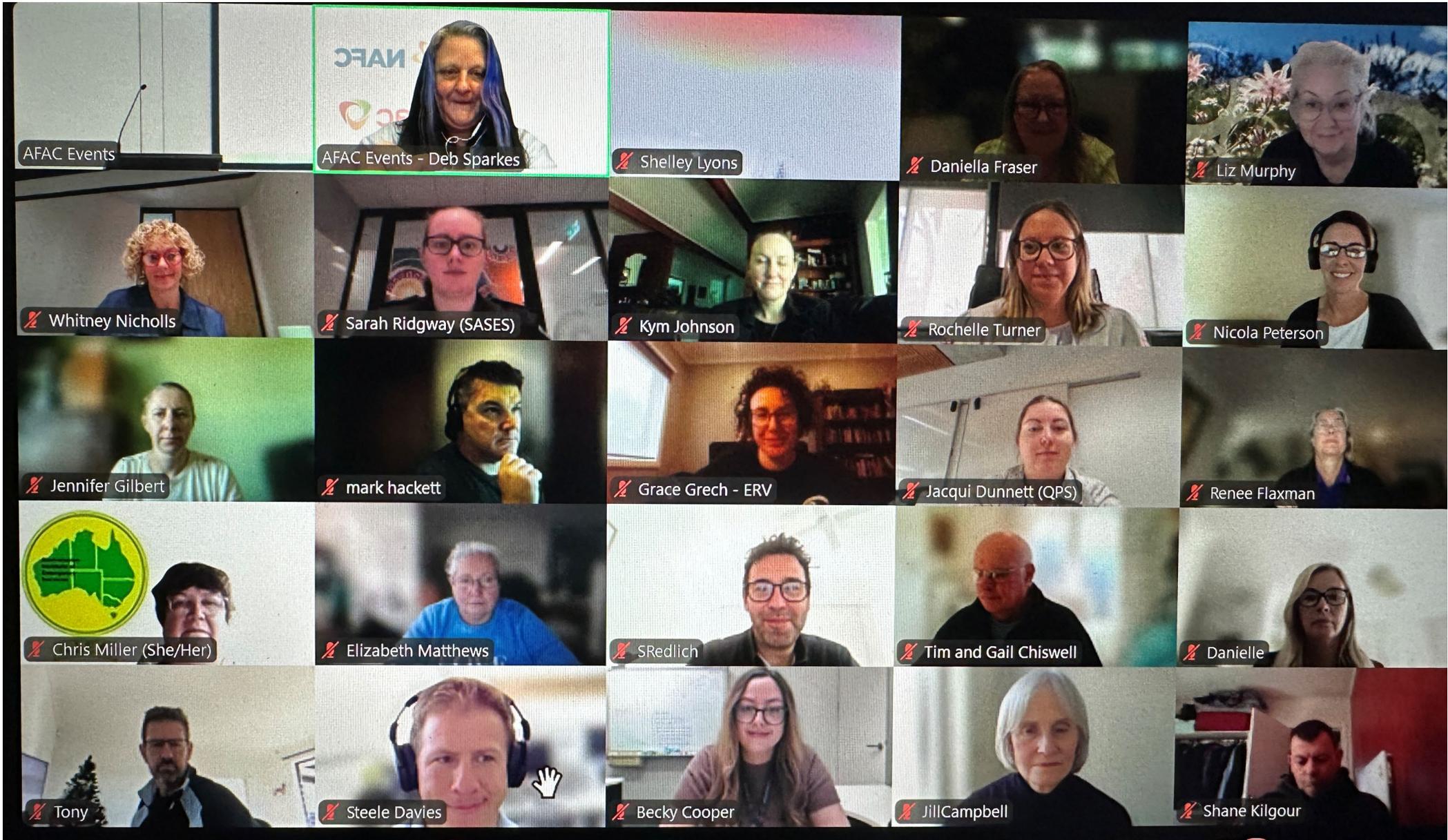


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Zoom Attendees Shout-out





AFAC Events

AFAC Events - Deb Sparkes

Shelley Lyons

Daniella Fraser

Liz Murphy

Whitney Nicholls

Sarah Ridgway (SASES)

Kym Johnson

Rochelle Turner

Nicola Peterson

Jennifer Gilbert

mark hackett

Grace Grech - ERV

Jacqui Dunnett (QPS)

Renee Flaxman

Chris Miller (She/Her)

Elizabeth Matthews

SRedlich

Tim and Gail Chiswell

Danielle

Tony

Steele Davies

Becky Cooper

JillCampbell

Shane Kilgour

Afternoon tea break

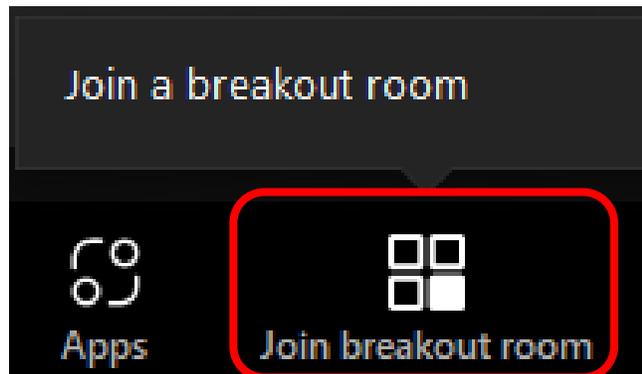
We will now be taking a break for afternoon tea.

Please rejoin us at:

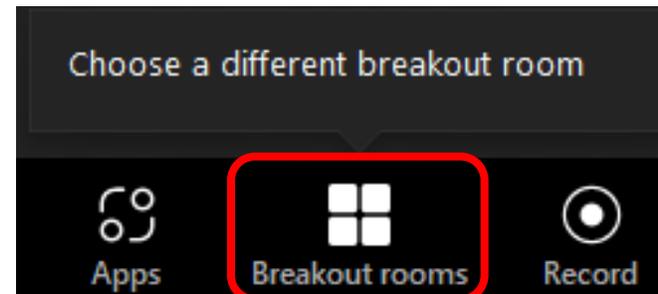
- 3.45pm NZST
- 1.45pm AEST
- 1.15pm ACST
- 11.45am AWST

Break-out rooms are now open.

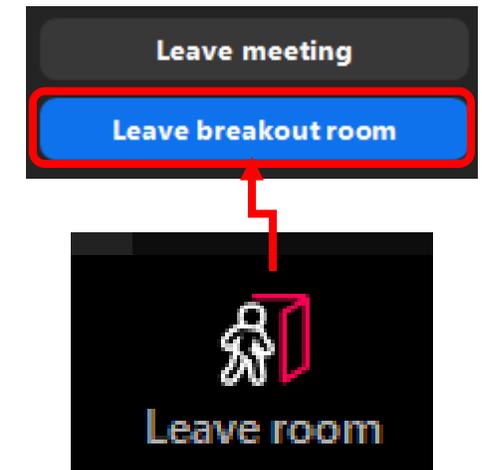
Feel free to join any of our break-out rooms and interact with the other online delegates.



To join from the main presentation room.



To change breakout rooms.



To return to main presentation room.

3.45pm – Presentation 16

Leadership Challenges: Influencing Decision-Makers for Continuous Improvement in Emergency Management

Stefan Weir

National Emergency Management Agency, New Zealand



Leadership challenges

Influencing decision-makers for continuous improvement in emergency management

Stefan Weir, Chief of Staff
May 2025



**National Emergency
Management Agency**
Te Rākau Whakamarumarū



Minister of Civil Defence
Minister for Emergency Management
Minister for Emergency Management and Recovery



2013–2016

2016–2017

2017

2017–2019

2019–2020

2020–2022

2022–2023

2023–



Influencing is...

"The ability to shape or sway the thoughts, decisions, behaviours, or actions of others to achieve a desired outcome, often without using formal authority or coercion."



Without influence, insights and recommendations derived from past events risk being overlooked, deprioritised, or rejected...

...particularly in environments where competing pressures—like political considerations, resource constraints, or risk aversion—can impact decision-making.



By understanding the unique motivations, concerns, and priorities of each audience...

...lessons managers can ensure that lessons are embraced, acted upon, and embedded into policies and operations, ultimately driving continuous improvement and better outcomes in emergency management.



Who are the decision-makers in our emergency management world?

What or who else is competing for their attention?



How do we find out what motivates and concerns our leaders?

...And how the hell do we influence them given they are so damn busy?

And what can one person do?...



The Minister's Office



Hon Mark Mitchell

Portfolios: Emergency Management and Recovery, Police (including Serious Fraud Office), Corrections, Sport and Recreation, Ethnic Affairs
[MP for Whangaparāoa]

Press Secretary

Ministerial Advisor

Private Secretary – Media/Advisory

Senior Private Secretary

Executive Support

Emergency Management
Private Secretary

Sport and Recreation
Private Secretary

(Cyclone) Recovery
Private Secretary

Police
Private Secretaries

Serious Fraud Office
Private Secretary

Ethnic Affairs
Private Secretary

Corrections
Private Secretaries

National Emergency
Management Agency

Sport NZ

Cyclone Recovery Unit
(Department of the Prime Minister
and Cabinet)

New Zealand Police

Serious Fraud Office

Ministry for Ethnic
Communities

Department of Corrections



Political

Public Service



Spend time looking out the window...



Keep it simple, plain language, no

do not be inconsistent in philosophy of new govt.

abbrev., no strategic frameworks, Don't seek \$, be honest (about risk) describe risk realistically

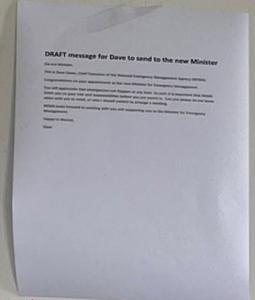
① Minister announced

② in person briefing

③ swearing in. of new Minister

④ Bunker briefing

⑤ 2nd tier Sims (assumption)



- if bad thing happens eg Hon Allan Napier
- seek follow-up briefing in NCMC ④

How the system nodes for the Ministers? what happens on the day
What does Min need to know & do?
- moderate event locally managed
- moderate - large requiring govt support
- Big out event SONE.

- 1. [a NCMC / NEMF] NCMC.
- 2. Bill
- 3. Recovery

URGENT?
Important?

BIM landed
ACT forms + Jacket
+ SONE commanders + SONE
+ SONE + Sat ph

15 min convo.

- Dave
- John?
- Jenna?

A3s

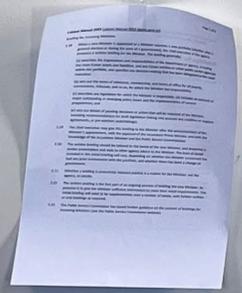
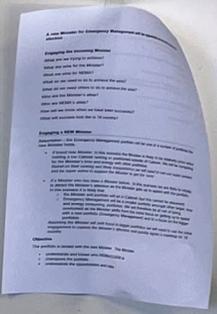
- Who is the Minister?
- What other portfolios does Min have?
- In/out of Cabinet?
- Who is Minister's Allie's
- What have they said in the past?
- What kind of ppl are in the Min's Office?

Space to have Dan Minister re their priorities

get the Minister talking asap.

- your role
- our role
- system role
- savings - \$, %
- Budget 2f
- Bill
- Inquiry
- el nino ahead / summer campaign
- what problems re we trying to solve?
- BCP

priority's - CE
- Doc
Dave - 2 slides





Briefing to the Incoming Minister for Emergency Management and Recovery

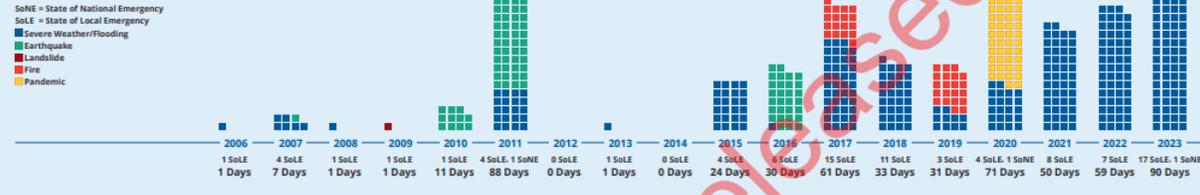
Date 27/11/2023

Priority: Routine

Security classification: ~~In Confidence~~

Annex 2: We've had a busy few years

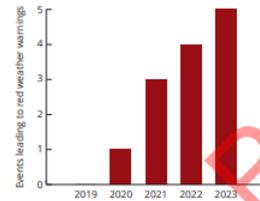
States of Emergency 2006-2023



Extreme weather events (floods, droughts, storms, etc) will be:

- more frequent
 - more intense
 - in locations not previously considered at risk.
- Evidence suggests the projections appear to be (uncomfortably) accurate
- 2022 weather-related insurance costs were at an unprecedented \$335m
 - breaking the previous record of \$305m in 2021
 - which broke the previous record of \$274m in 2020
 - 2023 will be >\$3.5bn. (Insurance Council of NZ)

Red weather events annually since 2019



Multiple warnings for a single event (e.g. Cyclone Gabrielle) counted as one 'event'.

Spread of declared emergencies across New Zealand from 2014-2023

States of Emergency: **75 Local**, **2 National**
Total days declared: **449**



Areas of New Zealand currently in recovery



Annex 3: New Zealand's riskscape

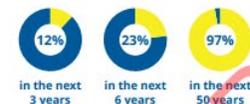


Modelled scenarios	Likelihood in next 50 years	Modelled building/infrastructure losses	Likely consequences
Auckland volcanic eruption	10%	\$5bn-\$65bn (buildings only)	Potential full evacuation of Auckland City with only days to week's warning.
Taranaki eruption	Small eruption: 30%, Large eruption: 1%	-\$1bn / \$10bn-\$15bn	Similar size to 1956-58 Ruapehu eruptions. Impacts dominated by ashfall and lahars; evacuations likely.
Hikurangi subduction zone earthquake and tsunami	M8+: 25%, M9.1: 1%	-\$10bn-\$20bn / \$144bn (buildings only)	Strong and long ground shaking for east coast of North Island, and large tsunamis produced.
Ruapehu / Tongariro / Ngauruhoe / Whakaari ash producing eruption	Almost certain	-\$1bn	Disruption on mostly from ashfall to aviation, electricity transmission, and tourism and primary industry sectors.
Hutt River flood (over stagebank design event)	5%	\$5bn-\$10bn	Hutt city - greatest exposure for any flood plain in New Zealand.
Wellington Fault M7.5 earthquake	5%	-\$16bn (buildings only)	Likely serious and prolonged damage and disruption to Wellington, including government.
South American M9+ earthquake & NZ tsunami	25%	-\$5bn (buildings only)	Large exposure for eastern coast of New Zealand, especially Christchurch City/Canterbury
Alpine fault - M8 earthquake	75%	-\$10bn	High probability event, extensive co-seismic landslides will compound impacts.
Actual events			
Cyclone Gabrielle equivalent event	80%	\$9bn-\$14bn (est. actual)	Moderate-sized event, causing severe multi-hazard impacts across multiple regions.
Kaikōura earthquake (2016)	1.7%	\$2bn-\$3bn (actual)	Moderate impacts to Wellington despite distance, severe critical infrastructure impacts.
Canterbury Earthquake Sequence (2010-11)	<1%	\$40bn (actual)	Largest disaster in a generation. Major and long-lasting impacts to Christchurch city, complex recovery.

What might the next 50 years look like for the emergency management system?

This page shows a summary of well-understood natural hazard risk scenarios, which helps to give some sense what we face as a nation. While this is not in any way an exhaustive list and is subject to many uncertainties, it provides some insights as to the relative likelihoods and consequences.

When we consider all of the modelled scenarios with >\$10bn expected damage costs, the estimated probability of any one of these events occurring is:



Note - this is not an exhaustive list of possible scenarios. Modified from GONZ 2014, updated and new data from GNS Science, NIWA, EQC, and Massey and Canterbury Universities

The shaking in Christchurch on 22 February 2011 lasted for around 10 seconds. An Alpine Fault earthquake could cause shaking for two to four minutes, and a Hikurangi subduction zone earthquake could cause shaking for four to eight minutes.



Alpine Fault

New Zealand remains exposed to costly earthquake events: researchers estimate a 75% probability of an Alpine Fault earthquake in the next 50 years, with a 4 out of 5 chance that it will be a magnitude 8+ event with potential to cause significant damage.

An Alpine Fault magnitude 8 rupture will release 350 times more energy than the 2011 Christchurch earthquake.



Challenges

It is very likely we will experience two or more concurrent major events. This will lead to long and overlapping recoveries. The relative vulnerability of people, property and infrastructure is growing. Climate change may also lead to a greater frequency of events in short succession and compounding socio-economic pressures.

It's critical we have a deep understanding of our risks in all their complexity.

Understanding how to reduce our risks is essential. We need to engage with and influence the right people and organisations. Communication and education with communities is at the heart of this.

We need to understand and work within the complexities of communities. We need to understand how they change over time and with different experiences and how this might impact their awareness of hazard risks.

The human cost of emergencies

In addition to economic costs, large scale emergency events have significant wider impacts on people, such as death, injury, psychosocial and other social impacts. For example, a Hikurangi M9.1 event would potentially result in tens of thousands of fatalities, injuries, and massive displacement of communities.



North Island severe weather events Jan – Feb 2023



TC Gabrielle – Feb 2023

Tues 14th Feb 2023 8:20am





Numerous reviews and a Government Inquiry

The collage features several key documents and reports:

- Connect Infrastructure:** Attachment 2, Napier City Council response to Cyclone Gabrielle Independent review.
- Bush International Consulting:** Auckland Flood Response Review, Initial report: s of supply.
- Government Inquiry:** Report of the Government Inquiry into the Response to the North Island Severe Weather Events.
- NEMA:** 2023 North Island Severe Weather Events NEMA's Internal Operational Lessons Report.
- Fire and Emergency:** Operational Review, Auckland Floods January 2023, Cyclone Gabrielle February 2023.
- Electricity Networks Aotearoa:** Report to Electricity Networks Aotearoa, Electricity Distribution Sector Cyclone Gabrielle Review.
- Telecommunications Emergency Forum (TEF):** Cyclone Gabrielle Post Incident Report, May 2023.
- After Action Review:** Cyclone Gabrielle - Wairarapa Response, 6 February to 7 March 2023.
- Independent External Review:** HAWKE'S BAY CIVIL DEFENCE AND EMERGENCY MANAGEMENT GROUP RESPONSE TO CYCLONE GABRIELLE, August 2023.
- Chief Ombudsman:** INSIGHTS AND OBSERVATIONS, The Chief Ombudsman's report on extreme weather events 2023.
- Review of Reviews:** 2023 North Island Severe Weather Events.
- Other:** Auckland Anniversary 2023 - Flood Response Review, National Emergency Management Agency, National Emergency Management Agency, New Zealand Government.

Strengthening disaster resilience and emergency management

Government response to the *Report of the
Government Inquiry into the Response to the
North Island Severe Weather Events*

NEW ZEALAND GOVERNMENT • OCTOBER 2024



This has led to the Emergency
Management System
Improvement Programme...

...the programme to implement
change in the emergency
management system.



Build a Strong Foundation of Credibility

- Be a knowledge broker
- Develop relationships
- Maintain integrity



Frame messages for impact

- Focus on what matters
- Use strategic storytelling
- Keep it simple
- Can we emotionally connect the audience with the issue?



Use Your Sphere of Influence

- Engage at your level
- Influence upwards
- Act laterally



Advocate for Action

- Propose solutions, not just problems
- Present a sense of urgency
- Be persistent (but respectful)



Acknowledge the problems

- Be transparent
- Optimism bias
- Challenging conversations



Pātai/Questions?

Lessons Management Forum 2025



Q&A

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4.15pm – Presentation 17

Flood Lessons Adoption

James Thompson

Canterbury CDEM Group

2025 Lessons Management Conference

Lessons Adoption from 2021 Canterbury Flooding

James Thompson

Canterbury CDEM Group Manager / Group Controller



Canterbury CDEM Group



The 2021 Flood

- 28 May – MetService Red Warning
- 30 May – Local SOE for Ashburton, Timaru and Selwyn Districts. Followed up by a region wide SOE. Emergency Mobile Alert (EMA) for evacuations in Waimakariri District
- 31 May EMA's issued for evacuation in Timaru, Ashburton and Waimakariri Districts
- 3 June – SOE begin to expire (Some complications due to the multiple SOE's in place)
- 10 June – Ashburton, Selwyn and Waimakariri Districts transition to recovery
- 11 June the regional Emergency Coordination Centre closes.



The Flood

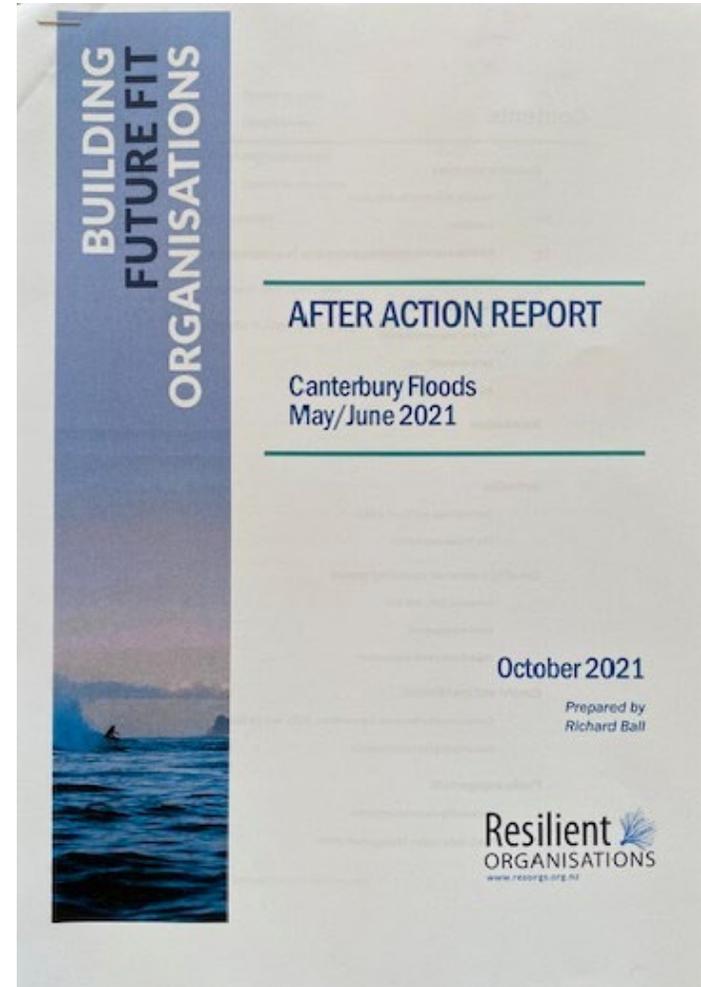


- Record rain fall in some of the Canterbury foot hills – particularly in Ashburton
- Significant road damage, including SH1 bridge in Ashburton. Lots of road diversions and closures in place.
- Significant impact to rural (primary production) farms and lifestyle blocks



After Action Review

- Individual Council and Organisation debriefs
- Canterbury CDEM Group debrief and lessons captured
- Independent After Action Review released October 2021
- Recommendations bundled up to be addressed by working groups
- Workgroups and key recommendations agreed to by the CDEM Coordinating Executive Group and CDEM Joint Committee



Working Groups



- Roding
- Impact and Needs Assessment
- Rural
- Capacity and Workload

- Each of these had a CEG Sponsor (Chief Executive), Project Lead and support with project management
- Most had multi-agency engagement

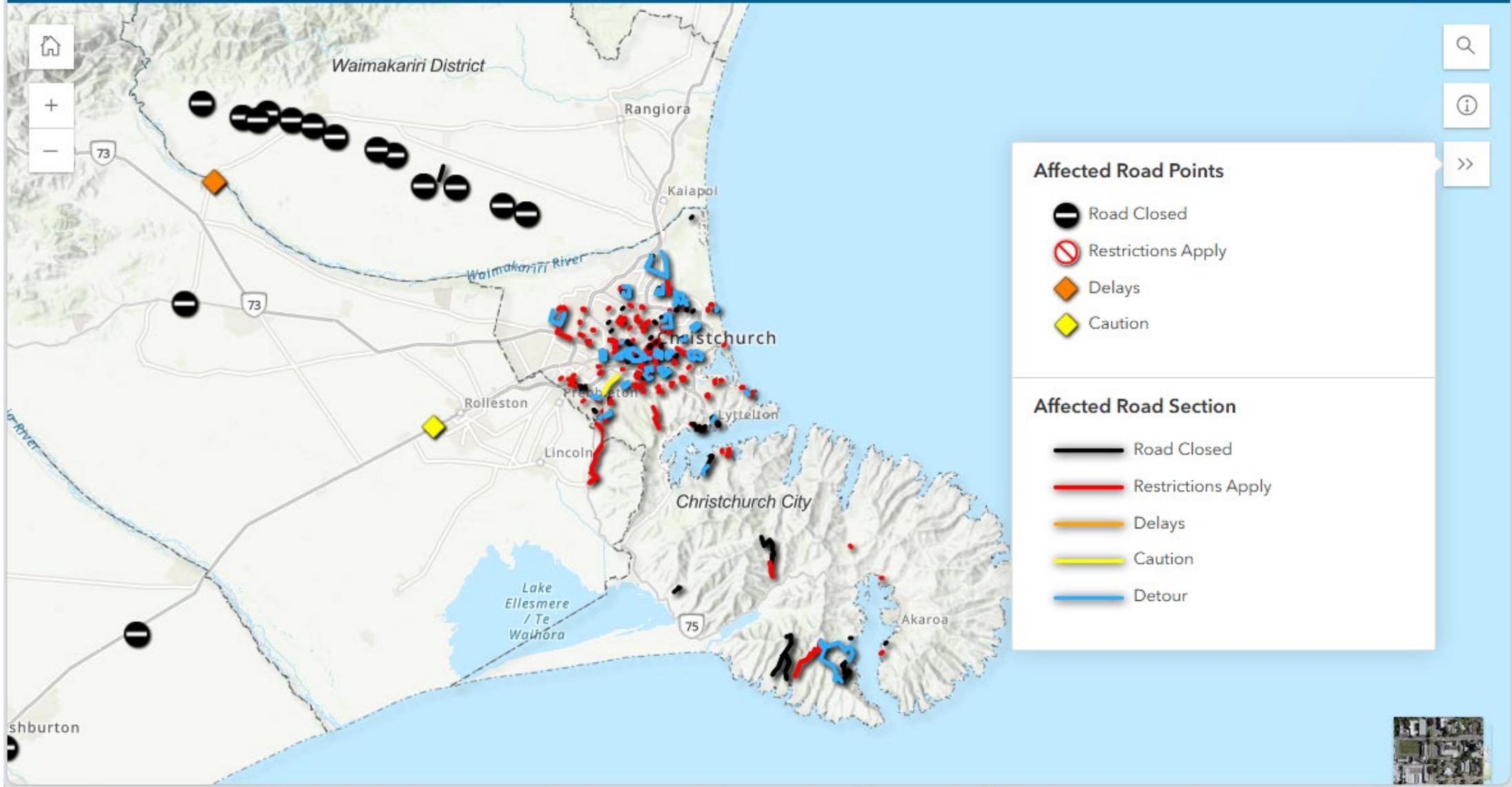


Roading Working Group

- Being able to provide a clear understanding on what roads are open, restricted or closed has been an ongoing issue in Canterbury across multiple emergencies for the responding agencies and the public.
- The NZTA Journey Map only shows State Highways and showing Local Road status is inconsistent across the country.
- This project aimed to provide a single Canterbury Map showing the status of roads managed by 10 Road Controlling Authorities in a single map in real time.
- While this sounds simple it was complex and slow to achieve.



Canterbury Road Status app



Impact and Needs Assessment Working Group

- This Working Group had two key projects
 - Creating a region wide integrated welfare needs assessment system, and
 - Creating a rapid initial impact assessment system
- These needed to integrate with the Common Operating Picture tool that was already in development and needed to link in with Decisions for Heroes (D4H), our information management system
- These two projects have lead to further COP work – for example a Controllers Dashboard



ArcGIS Survey123

Canterbury Welfare Needs Assessment

Will food delivery be required? *

Use your judgement to determine if delivery is required i.e no access to transportation, isolated etc.

Yes No

Provide details about specific food needs:

Any consideration the EOC need to be aware of when organising food support e.g., number of people, dietary requirements, baby food, cultural considerations.

Food Priority

Select the appropriate priority category based on the urgency of the need

Will delivery of water be required? *

6 of 7

Welfare Needs Assessment

Open (to be reviewed): 5		Open (support in progress): 2			Closed (no support needed): 3				Unknown (no one home): 2		
Name	Status	Food Priority	Water Priority	Health Priority	Household Supplies Priority	Heating / Cooking Priority	Shelter / Accommodation Priority	Animal Welfare Priority	Can you contact police directly	Can you contact MSD directly	Can yr health Health
▼ Closed (no support needed)											
Rolleston, Markham Way, 10	Closed (no support needed)	High (<24 hours)	High (<24 hours)								
Rolleston, Markham Way, 28	Closed (no support needed)										
Rolleston, Markham Way, 6	Closed (no support needed)										
▼ Open (support in progress)											
Rolleston, Markham Way, 12	Open (support in progress)	High (<24 hours)	High (<24 hours)						No		
Rolleston, Markham Way, 18	Open (support in progress)	High (<24 hours)							Yes		
▼ Open (to be reviewed)											
Rolleston, Keyes Mews, 5	Open (to be reviewed)	High (<24 hours)	High (<24 hours)	High (<24 hours)	Medium (1-3 days)	Low (3+ days)	Medium (1-3 days)	Medium (1-3 days)	Yes	No	Yes
Rolleston, Markham Way, 2	Open (to be reviewed)	Medium (1-3 days)	Medium (1-3 days)								
Rolleston, Markham Way, 22	Open (to be reviewed)	Low (4+ days)	Low (4+ days)								
Rolleston, Markham Way, 26	Open (to be reviewed)	High (<24 hours)	High (<24 hours)						Yes		
Rolleston, Wilbur Close, 6	Open (to be reviewed)										
▼ Unknown (no one home)											
20 Markham Way	Unknown (no one home)										
Dartfield, Kowhai Drive, 10B	Unknown (no one home)	High (<24 hours)									



Assessments Results Dashboard

For tasking and further analysis go to your D4H channel

Canterbury Welfare Needs Survey Results Dashboard

Local Authority (spatial) Filter: Selwyn District | Event Filter: None

Total Assessments



224

Not a NZ Citizen

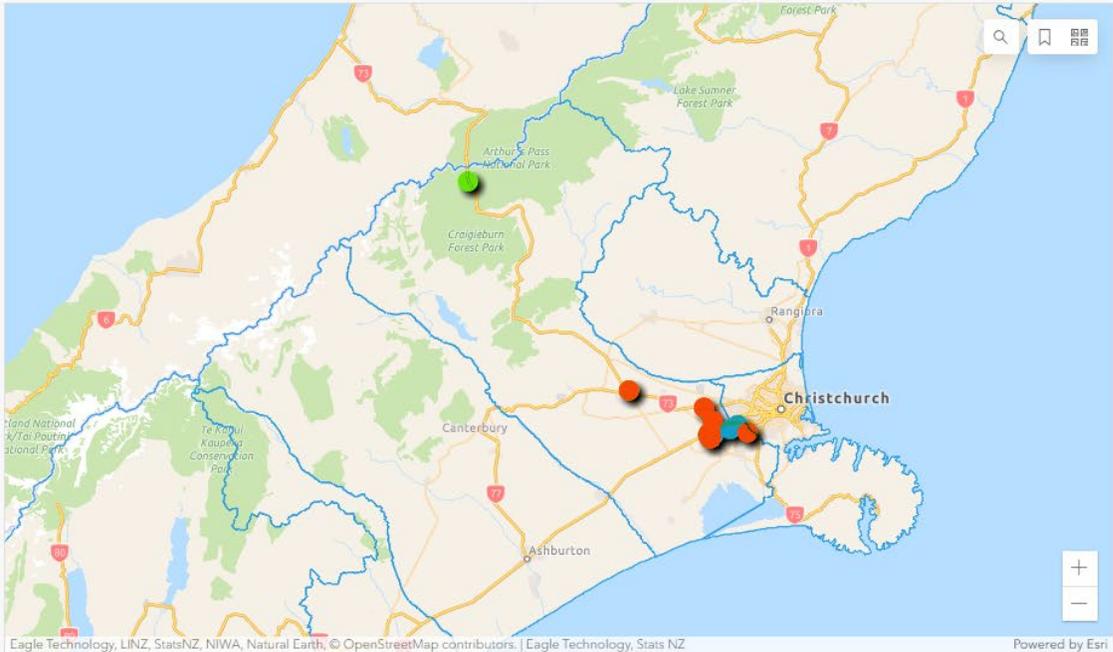


11

Not at Permanent Address

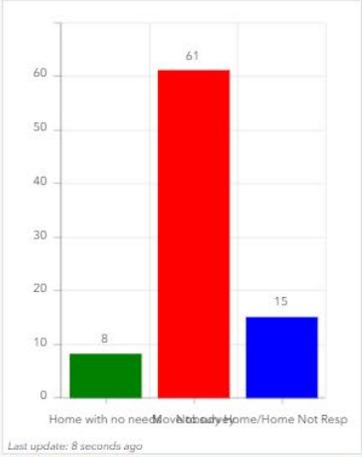


21



Canterbury Welfare Needs Assessment Stakeholder view

- Open to be reviewed
- Home no support required
- Nobody home/home not responding



Accommodation Needs  39	Healthcare Needs  31	Food Delivery Needs  36	Water Delivery Needs  27	Household Supplies  24	Financial Needs  22	Animal Welfare Needs  15
--	---	--	---	---	--	---



CanterburyCDEM Wid...

Flood Extent

Property & Building

Unknown Impact

No Impact

Moderate Impact

Severe Impact

Totally Destroyed

People & Animals

GPS accuracy 30m

Rapid Impact Assessment

NZRT Field Intelligence Dashboard - Historic Events
V2.0 6 May 2023

Select Historic Event to show...
Cyclone Gabrielle Kaipara NZ...

Filter observations by Category
No category selected

Filter Observations by Severity
No category selected

Filter Road Condition
No category selected

Monday, 29 January 2024
10:02:23 NZDT

Road Condition
1,041.1km
Normal

Road Condition
0km
Surface Flooding

Road Condition
13.5km
Surface Damage Possible

Road Condition
0.3km
Deep Flooding

Road Condition
1,054.9km
Total Length Assessed

No data

Observation Type

Surface Flooding 0%

Surface Damage Passable 1.28%

Deep Flooding 0.03%

Normal 98.69%

Category and Severity

Count

Lifeline / Utilities

Natural / Environmental

Property & Building

Transport Infrastructure

Moderate Impact

Severe Impact

Totally Destroyed

No Impact

Unknown Impact

Event: Cyclone Gabrielle Kaipara NZRT1

Property & Building - Moderate Impact

Comments
Water from King tide coming onto property. One weatherboard height of the house. Owner said the water has never come onto the property to before.

DataCollectedBy
Rekha Jensen (Red Cross)

Controllers Dashboard

EXERCISE Group Controller's Status Board **EXERCISE**
Filter by Local Authority
All of Canterbury

Canterbury ECC
Mode: Direct

11:39

Wednesday 30-04-2025

****Exercise Pandora****

Alpine Fault Earthquake
Lead Agency **NEMA**

Day 177 Event begins 05/11/2024, 10:32

Response Level

R4

Canterbury Group Controller's Priorities

1. Preserve Life
2. Conduct targeted reconnaissance
3. Gain information on displaced people
4. Lead and coordinate key messaging
5. Develop shareable combined intelligence
6. Conduct threat assessments
7. Monitor OH&S

Eagle Technology, LINZ | Eagle Technology, LINZ, StatsNZ, NIWA, Natural Earth, © OpenStreetMap contributors, | Emergency Management Canterbury Powered by Esri

View Hill

Waimakariri District is an **Affected Area** with **Moderate Impact**
 Road status **Unknown Status**
 Electricity status **Reduced Service**
 Telecomms status **No Service**
 Potable water status **No Service**
 Population **385**
information updated by canterburycdem 29/11/2024, 16:45

Birdlings Flat

Christchurch City is an **Isolated Area** with **Major Impact**
 Road status **Full Service**
 Electricity status **No Service**
 Telecomms status **Reduced Service**
 Potable water status **Boil Water Notice**
 Population **96**
information updated by canterburycdem 29/11/2024, 16:45

Methven

Ashburton District is an **Affected Area** with **Minor Impact**
RDR breakout surface flooding in town
 Road status **Reduced Service**
 Electricity status **Full Service**
 Telecomms status **Full Service**
 Potable water status **Boil Water Notice**
 Population **2,614**
information updated by canterburycdem 29/11/2024, 16:45

Akaroa

Christchurch City is an **Affected Area** with **Moderate Impact**
 Road status **Reduced Service**
 Electricity status **Reduced Service**
 Telecomms status **Full Service**
 Potable water status **Boil Water Notice**
 Population **897**
information updated by canterburycdem 29/11/2024, 16:45

Arthur's Pass National Park

Selwyn District, *Waimakariri District is an Affected Area with*

Affected Areas

57

LINZ Localities and Suburbs

Electricity Outage Areas

43

From lifelines reports

Impacted Population

93.8k

2022 Usual Resident Population

Last update: 1 minute ago

Te Waipounamu Declarations



Rural Working Group



- The Rural Community was significantly impacted
- Projects included:
 - Establishing Roles and Responsibilities for organisation working in the rural sector
 - Production guidance for farms on flood preparedness
 - Increasing the capacity and capability of the Canterbury Rural Advisory Group
 - Rural Rapid Impact Assessment and Rural 21-Day assessment
 - Lifestyle block support



Capacity and Workload Working Group

- This was tasked with getting more consistent staff capacity and capability across Canterbury coordination centres.
- It stopped due to a larger review of the Canterbury CDEM Group by KPMG
- Now being picked up by:
 - The Canterbury Training Advisory Group, and
 - Focus area three of the national Emergency Management System Improvement Programme



After-Action Success

- Turning lessons into lesson learnt is a challenge. Often the same lessons come up at the next event.
- Following this flood the Canterbury CDEM Group have managed to learn some lessons. Why were we successful:
 - Executive Leadership and Governance agreed to the work that was required and expected regular updates on progress
 - Executive sponsorship (the Executives came to many of the Working Group Meetings)
 - A Project Lead was appointed and project management support provided.
- However – it took longer than expected and there is still ongoing work to complete.
- Further work has come out of the Working Groups that will lead to better outcomes in the next event



Questions

James Thompson

james.thompson@cdemcanterbury.govt.nz

027 277 1505



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Q&A

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Des Hosie

National Advisor for Safety, Continuous Improvement and Lessons Management

Fire & Emergency New Zealand



Closing Karakia

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Thank you for attending.

Don't forget to take your coat.

Please have a safe trip home.



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