

Awareness, education and communication for compound natural hazards

Slido room: W3S4

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T2-A1 Awareness, education and communication for compound natural hazards

Project workshop

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Today's workshop

- To better understand how stakeholders currently perceive communication for compound natural hazards – what works, what's problematic, what can be done better.
- To seek feedback and input from project stakeholders to ensure that the end-product of the project is of value.
- To ensure project outputs are immediately useable to stakeholders.



Slido questions

What kinds of obstacles/barriers are there when communicating with communities about compound natural hazards?

What does effective communication about compound natural hazards look like?



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Project rationale

- Hazard events are increasing in frequency and intensity under climate change.
- Many regions are being affected by multiple types of hazard within short timescales.
- Emergency management and recovery agencies have developed a range of engagement activities and communication outputs in relation to warning, crisis management, response and recovery.



Project rationale

- Research-backed best-practice for communication to enhance community reception, awareness and preparedness for compound hazards has not been established.
- Communities may suffer information overload, conflicting/multiple messages & warning fatigue
- Co-creation with communities has been identified as the most effective avenue for genuine engagement (Cook et al. 2022).





Project rationale

- A clear framework is needed for best practice awareness, education and communication for compound hazards.
- Framework must be immediately useful for communities, response and recovery agencies.
- Framework must fit the needs of multiple end-users.

Defining compound natural hazards

Definition is not widely agreed on (how many disasters, how many types, when do they begin, when do they end?)
Compound disasters have been variously defined as:

- two + extreme disaster events occurring simultaneously/successively
- combinations of extreme events with underlying conditions that amplify their impact
- combinations of events that are not themselves extreme but which collectively lead to an extreme aggregation of impacts (Seneviratne et al., 2012)
- events occurring within a three-month window, and with insured loss of >\$100M (Gissing et al., 2020)



Compound hazards in the Australian context

Historical examples of compound natural hazard events include:

- Jan-March 1974: Cyclone Wanda + Cyclone Zoe
- 2010/11: Floods + Cyclone Yasi (QLD), Floods + severe storm (VIC)
- 2020: Black Summer fires + flooding (Southern NSW)



A problem in two parts

- 1) Community reception: what information do communities receive, how do communities receive it, what do they do with that information, what actions do they take because of that information?
- 2) Agency engagement: what information do agencies release, how do they release it, what are the triggers for changing that information/and or its method of release?

In this project we need to understand the responses of communities to compound natural hazards and the implications and opportunities for engagement to increase preparedness and resilience



Research questions

- What are compound hazards in an Australian context?
- What is international best-practice for awareness, education and communication around compound natural hazards?
- How can emergency management organisations in Australia best engage with communities to:
 - understand the barriers, opportunities and challenges to the development and delivery of effective community engagement for compound natural hazards
 - understand the impact of compound disasters on community capacity to respond to such threats
 - enhance community compound disaster literacy
 - understand warning fatigue and/or communicate with communities in recovery
 - provide consistent and effective information, including warning systems, to support preparedness, response and recovery from compound natural hazards?



Research questions

- What stakeholders and collaborations are required for effective community engagement with communities on compound natural disasters?



Project outline

- An initial desktop review (SQLR) of existing literature to establish global best-practice communication on compound natural hazards and appraise existing frameworks for education and engagement.
- Social research in three disaster-affected communities and co-creation of a new framework to guide communication on compound natural hazards.



Social research: methods

- Social research will establish community vulnerabilities, understandings and communication needs for compound natural hazards.
- Invited community forums in each case study community. Community members/leaders, relevant sector leaders (eg: business, essential services and infrastructure) together with local emergency management, preparedness and response personnel in a guided workshop/discussion forum.
- Survey: how did the community respond to communication and community engagement pre/during/after compound disasters in their region? What would effective communication/community engagement look like pre/during/after compound disasters? What are the challenges? How best to engage with individuals/communities recovering from disaster?



Social research: methods

- Interviews with key place-based stakeholders: emergency management, local government, health providers and community members to gather local knowledge and develop the draft community engagement framework.
- Approximately 12 interviews per case study location.
- Collaboration with local media to publicise the survey and report on the research project to increase community understanding of its aims.
- Local media involvement aims to support community participation in the survey, interviews and research forum.



A close-up photograph of a plant branch. The branch is green and has several small, round, green buds. One of the buds is in the foreground, showing its textured surface. Below the buds, there is a large, white, fluffy flower head with many fine, white filaments. The background is dark and out of focus.

Next steps

- Creation of framework to guide communication on compound natural hazards.
- Draft framework will be shared in an online focus group with stakeholders and community members in each case study location to seek feedback.
- Learnings from the project may be disseminated in partnership with local media as the key place-based communication channels.
- The framework and final report will be completed after this stage of community consultation.



Why involve local media?

- Research shows local news outlets are more than conduits of information. They are advocates, community champions and facilitators of public discussion (Hess and Waller, 2017; Gulyas and Baines, 2021).
- Local media are widely engaged in small communities. Certain news organisations are 'keystone media' (Nielsen, 2016).
- We would work with keystone media to engage local residents with the project.



Why involve local media?

- We have argued that when it comes to environmental and climate communication especially, local news outlets need to be more pro-active rather than 'objective' (Mocatta et al, 2022).
- We will combine constructive journalism approaches with media ecology mapping to determine appropriate media partners to help facilitate town halls and subsequent media coverage.





Selecting the case study locations

- Relevance to the study (has the community been impacted by compound natural hazards?)
- Geographical spread (are the case studies located in various parts of Australia?)
- Local media presence (are there local media outlets which can assist, as per our methodology?)
- Avoiding over-researched communities (is this community in danger of research fatigue?)
- Budget (what can we achieve within the parameters of the study?)



Project case study locations

- Ayr, QLD
- Dandenong Ranges, VIC
- Tenterfield, NSW



Location	Ayr, QLD	Dandenong Ranges, VIC	Tenterfield, NSW
Relevance to the study (has this community been impacted by compound natural hazards?)	Cyclone Debbie	Storm, flooding, COVID	Drought, bushfires, water contamination, flood
Recency (has this community been impacted by compound natural hazards within the last 3 years?)	March 2017, 2022/23	2021	end-2019 - 2022
Type of compound natural hazard (was this community impacted by consecutive or concurrent natural hazards?)	Sequential: cyclone, floods	Concurrent: COVID, storms.	Sequential: Drought, bushfires, water contamination event, flood
Geographical spread (does this location contribute to geographical diversity within the study?)	Burdekin Shire, QLD, rural	Victoria, semi-urban	NSW, rural small town (population 4000)
Social diversity (does this location contribute to social diversity within the study?)	Lower SES	Tends to be mid-upper SES	Range of SES, 10% unemployment rate and an ageing community isolated from services, Indigenous groups
Local media presence (are there local media outlets who can assist, as per the project methodology?)	Yes, includes 97.1 Sweet FM	Yes	Yes
Avoiding over-researched communities (is this community <u>not</u> in danger of research fatigue?)	Yes Has existing Get Ready Burdekin initiative	Yes	Yes
Budget (is social research in this location achievable within the parameters of the study?)	Yes	Yes	Yes



Project outcomes

- An advanced understanding of current research and global best-practice approaches to community engagement for compound natural hazards and disasters.
- contribute to/advance understandings of co-design as a research methodology and consider the role and importance of local communications infrastructure in helping communities mitigate, prepare for, respond to and recover from compound natural hazards.
- provide an immediately useful conceptual framework for emergency management and recovery agencies to guide communication for compound natural hazards.



ROAD CLOSED



Slido questions

How would you use the outputs of this project?

How can we make the project most useful to you?



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Thank you

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