

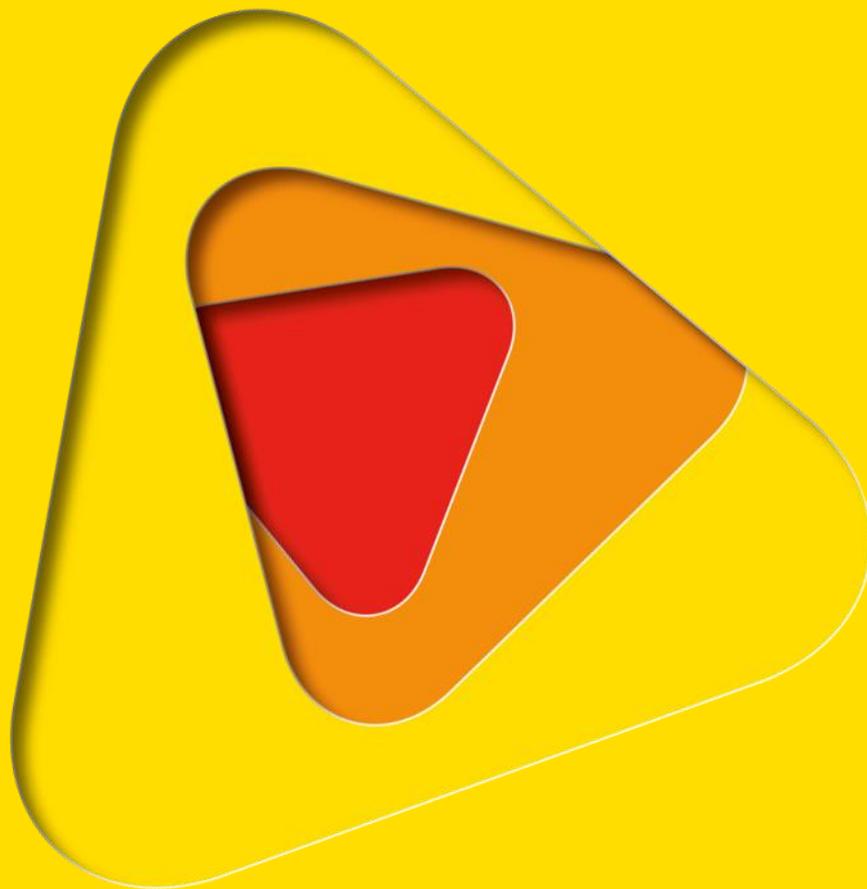


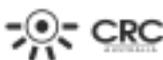
# **BUILDING RESILIENT COMMUNITIES: EFFECTIVE MULTI-CHANNEL COMMUNICATION IN DISASTERS**

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Queensland University of Technology  
Bushfire and Natural Hazards CRC

**Annual Report 2014**





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## BUSHFIRE AND NATURAL HAZARDS CRC ANNUAL REPORT

1 January – 30 June 2014

<b>Project Title</b>	Building resilient communities: Effective multi-channel communication in disasters (C8)
<b>Project Leader</b>	Professor Vivienne Tippett, Queensland University of Technology
<b>Researchers</b>	Professor Sharon Christensen (QUT) Dr Paula Dootson (QUT) Professor Bill Duncan (QUT) Dr Dominique Greer (QUT) Dr Amisha Mehta (QUT) Ms Amanda Stickley (QUT)

## PROJECT SUMMARY

Governments, authorities, and organisations dedicate significant resources to encourage communities to prepare for and respond to natural hazards such as cyclones, earthquakes, floods, and bushfires. However, recent events, media attention, and ongoing academic research continue to highlight cases of non-compliance. Non-compliance can include an individual's refusal to evacuate when a voluntary, recommended, or mandatory evacuation message is given, evacuating when advised not to, and travelling through hazardous areas when advised not to, to name a few. The consequences of non-compliance during a natural hazard can include personal injury or loss of life, and damage to, or loss of property. Individuals who fail to comply with instructions issued during natural hazards significantly impede the emergency response because they divert resources to compliance-enforcement, and risk the lives of emergency service workers who may be required to assist them. The consequences of non-compliance drive the need to understand how to influence the levels of individual-level compliance in a natural hazard, through more effective communication.

An initial investigation of the field suggests several assumptions or practices that influence emergency management policy, communication strategy, and community behaviours during natural hazards: (1) that community members will comply with instructions issued by governments and agencies that represent the most authoritative voice, (2) that communication campaigns are shaped by intuition rather than evidence-based approaches, and (3) that emergency communication is linear and directional. Little is known about the extent to which existing hazard communication strategies influence the levels and quality of preparedness for natural hazards; comprehension of the requested actions; and/or the actual behaviour of individuals in disaster situations.

Following an analysis of the peer reviewed literature, policy documents, legislation, inquiry and industry reports, the researchers will draw on multiple and mixed methods including in-depth interviews with key informants from emergency services and the community, and experiments to evaluate the effectiveness of risk and warning communication. This project will explore emergency message content, timing, mode of delivery, and the interplay of 'non-official' information with concurrent 'official' messaging to promote better understanding of the psychological and legal motivators for maximising compliant community response in the face of a natural hazard. The objective of the research is to provide evidence-based message content to guide operational and communication strategy and improve community understanding, decision-making, and compliance during the emergency response and recovery phase of natural disasters. Specifically, this project seeks to recommend a suite of messages for use during the response and recovery phases of a disaster that individuals are most likely to comply with. This suite of messages may also include messages tailored to specific groups within the community based on their past experience with disasters. The messages recommended will take into consideration the legal issues emergency agencies may face when communicating with the community.

## INTRODUCTION

Risk and warning communication plays an essential role in building, maintaining, and restoring resilience in individuals, communities, and businesses. Recent natural hazard events demonstrate that current risk and warning communications do not always lead to the desired effect on community response and early recovery. This project combines expertise in communication, consumer psychology and marketing, disaster and emergency management, and the law. The project aims to develop evidence-based strategies that motivate appropriate action and increase informed decision-making during the response and recovery phases of disasters.

## THE PROJECT

This project adopts a multi-hazards approach to examine the effectiveness of response and recovery communication in communities (comprising individuals, groups, and businesses) affected by floods, cyclones, fires, and earthquakes. The core project objectives are two-fold:

1. Develop methods to maximise the effectiveness of response and recovery messaging to the community during a range of natural hazard events.
2. Promote both community and disaster agency understanding of the legal motivators for maximising engagement with emergency messages and instructions.

The project draws on key motivation theories to explore the individual drivers of non-compliant behaviour and investigate the legal vulnerabilities or liabilities of the various stakeholders, such as governments and first responders, within the current legal framework. Reflecting the research techniques specific to the disciplines of communication, marketing, and law, this project adopts a multi-method research design to specifically:

- examine the content and delivery strategies of emergency messages,
- develop evidence-based advice to guide trigger communications during hazards,
- analyse the effectiveness and efficiency of official emergency messages in the response and recovery phases,
- promote both community and end-user understanding of the psychological and legal motivators for maximising engagement with emergency instructions, and
- examine opportunities for application of new technology and communication systems (e.g., emerging digital and social media platforms) to maximise the comprehension and compliance of communities at risk.

In order to achieve these goals, both qualitative (interviews and focus groups) and quantitative (experiments) will be undertaken. The interviews will triangulate information on what *should* be communicated, what *is* communicated, and what *is actually* done during the response and recovery phases of a disaster by emergency agencies. To collect this information, three groups will be approached for interviews:

1. High-level emergency service provider agency representatives responsible for the development and delivery of risk information. This group will provide information on what should be communicated during the response and recovery phase of a disaster.
2. Emergency services communications personnel involved in the communication of warning and risk information. This group will provide information on what is communicated during the response and recovery phase of a disaster.
3. On-the-ground emergency services personnel involved in implementing warning and risk information, and encouraging compliant behaviour by community members. This group will provide information on what actually happens on the ground regarding communication, and if/how that deviates from policies and procedures during the response and recovery phase of a disaster.

The goal of the interviews is to highlight discrepancies in agency communication and identify opportunities to inform best practice communication. Moreover, the interviews will identify any legal liability issues in deviating from emergency management legislation and plans. Focus groups will then be run with community members to understand what is actually interpreted from the information communicated to the public by agencies during the response and recovery phases of a disaster. The focus groups will provide insight into important triggers for compliance, and identify what messages are likely to be misinterpreted. Collectively, the interviews and focus groups will provide a better understanding of the psychological reasons for non-compliant behaviour during natural hazards, and a clearer outline of the legal consequences of non-compliant behaviour and whether it acts as a barrier or enabler for compliance.

The interviews and focus groups will inform the development of emergency messages for the response and recovery phases of a disaster. These emergency messages will be tested using experiments to examine which messages will most likely motivate the individual to behave in a way that is compliant with the emergency message. The experiments will test what individuals intend to do during disasters. The outcome of the experiments will likely be a toolkit for more efficient and effective instructional message design during natural hazards. The results will cumulatively inform the development of best practice principles for risk and warning communication and recommended changes to the regulatory framework.

## **WHAT'S BEEN HAPPENING IN YOUR PROJECT**

### ***Project activities:***

1. Ran a forum at the QUT Centre for Emergency and Disaster Management (CEDM) titled "trust, but verify" with panellists [15 October 2013]:
  - Assistant Commissioner Paul Stewart - Queensland Police Service
  - Gary Kemble - Australian Broadcasting Corporation
  - Adam Moss - Queensland Department of Community Safety
  - Dr Paul Barnes - QUT School of Public Health & Social Work

- Associate Professor Axel Bruns - QUT School of Media, Entertainment, Creative Arts, Media & Communication
  - Dr Amisha Mehta - QUT School of Advertising, Marketing & Public Relations
  - *Moderator*: Peter McCutcheon - Australian Broadcasting Corporation
2. Held a series of meetings with the C8 project team [20 January 2014; 11 February 2014; 20 February 2014; 24 February 2014; 21 March 2014; 27 March 2014]
  3. Finalised the contract [12 February 2014] and Deed of Variation [5 March 2014] between QUT and the BNHCRC
  4. Appointed Jacinta Buchbach - Research Assistant [24 February 2014]
  5. Commenced collecting publically-available communication policy documents and evaluations to draft the deliverables for the period [24 February 2014]
  6. Appointed Dr Paula Dootson - Postdoctoral Research Fellow [shortlisted on 12 February 2014; interviews on 17 February; appointment began 10 March 2014]
  7. Commenced collecting peer reviewed literature in order to begin developing a messaging typology [10 March 2014]
  8. Established a Building Resilient Communities project space on the QUT Wiki for internal and external information transfer
  9. Sought and received preliminary ethical clearance [Approval # 1400000053] for project commencement through the QUT University Human Research Ethics Committee process. Ethics clearance for fieldwork phase is being prepared.
  10. Attended the Research Advisory Forum in Adelaide [18-20 March 2014]
  11. Finalised the End User Group [21 March 2014], see list in 'list of project team members' section
  12. Requested access to the AFAC website, particularly their repository of operating procedures and policy manuals [23 March 2014]
  13. Drafted a report analysing existing policy documentation, with specific reference to communication strategies and principles [30 March 2014]
  14. Reviewed and finalised the Project Management Plan (attached) [30 March 2014]
  15. Drafted typology of message compliance (now called a 'framework of message compliance') [19 May - 30 June 2014]. This draft typology will be tested in year 2 and beyond, during consultation and focus group activities. It is anticipated that the typology will continue to develop over the course of the Project.
  16. Sourced additional policy documents and inquiries for inclusion in the review, then finalised the policy review report [31 March - 30 June 2014].
  17. Submitted extended abstract: 'Making smart decisions: Key steps towards a typology for emergency communication during natural hazards' to International Communication Association (ICA) conference, 1-3 October, 2014, Brisbane, Australia [25 April 2014]
  18. Dr Paula Dootson registered and created poster for AFAC conference, Wellington, New Zealand, 1-5 September 2014 [17<sup>th</sup> May – 4<sup>th</sup> June 2014].

19. Meeting with Amber Brodecky to discuss the National Review of Warnings and Information project that CUBE is working on: This project is being delivered by the Fire Services Commissioner, Victoria and has been funded by the National Emergency Management Project (NEMP) grants program. [21 May 2014]
20. Follow communication with Amber – the team is to share list of people they interviewed to guide our interview sample selection process
21. Full research team meeting [12 June 2014]
22. Ongoing sub C8 team (Business School and Health Faculty researchers) meetings [2 April 2014, 16 April 2014, 23 April 2014, 15 May 2014, 16 May 2014, 30 May 2014, 12 June 2014, 17 June 2014, 20 June 2014]. In addition the Postdoc and the Lead Researcher meet fortnightly to review and discuss progress.
23. Attended the AFAC Australian Community Engagement conference in Wollongong [23-24<sup>th</sup> May] and presented a paper on the cluster activities with Mr Andrew Richards [Lead End User]. On the 22<sup>nd</sup> May, Vivienne Tippett and Mel Taylor accepted an invitation to provide an overview of the projects and opportunity for discussion to the AFAC Technical Group.
24. Attended webinar: Effectiveness of Wildfire Messages to New Zealand Communities, presented by Lisa Langer [4 June 2014]

**Media:**

- Media release: “Trust, But Verify: Social Media in Crisis Communication” [15 October 2013]
  - Ran a CEDM forum (see above in activities)
- Media release: “Who to trust, how to behave as natural disaster unfolds” [3 February 2014]
  - <https://www.qut.edu.au/health/about/news/news?news-id=68181>
  - ABC radio interview (north QLD)
- QUT Research - Emergency Warnings and Bushfire and Natural Hazards CRC - 7 News -
  - <http://www.youtube.com/watch?v=wKxVQ2zYClk>

**Recruitment:**



Appointed Dr Paula Dootson - Postdoctoral Research Fellow [shortlisted on 12 February 2014; interviews on 17 February; appointment began 10 March 2014]



Appointed Jacinta Buchbach - Research Assistant [24 February 2014]

***End-user interaction:***

- Finalised the End User Group [21 March 2014]
- Participated in Communications and Warnings Cluster teleconferences [9 December 2013; 13 January; 10 February; 3 March 2014]
- Held two End User Meetings with Rowena Richardson, Director in the Office of the Inspector General Emergency Management [13 December 2013; 24 February 2014]
- Prepared and distributed a Project Welcome & Update Newsletter and request for agency warnings/emergency communications documentation [27 February 2014]
- Held an End User teleconference [11 March 2014]
- Attended the Research Advisory Forum in Adelaide [18-20 March 2014]
- Participated in a briefing teleconference with End User Samantha Chard, Assistant Secretary, Emergency Management Policy Branch, Attorney-General's Department [28 March]
- Attended AFAC Australian Community Engagement and Fire Awareness Conference (ACEFAC) in Wollongong, Australia [23-24 May 2014]
- Addressed the AFAC Technical Group [22<sup>nd</sup> May 2014]

**PUBLICATION LIST**

- *Making smart decisions: Key steps towards a typology for emergency communication during natural hazards.* - Accepted for presentation to International Communication Association, (ICA) 1-3 October, 2014, Brisbane, Australia [presenter: Amisha Mehta]
- *Communications and warnings – A clustered research collaboration* – Presented at the 2014 Australian Community Engagement and Fire Awareness Conference, Wollongong, 22-24 March 2014 [presenter: Vivienne Tippett]

## **LIST OF CURRENT INTEGRATED PROJECT TEAM MEMBERS**

### ***Researchers***

- Professor Sharon Christensen (QUT)
- Professor Bill Duncan (QUT)
- Dr Paula Dootson (Postdoctoral Research Fellow, QUT)
- Dr Dominique Greer (QUT)
- Dr Amisha Mehta (QUT)
- Ms Amanda Stickley (QUT)

### ***Students \*not official BNHCRC PhD students***

- Melanie Baker-Jones (PhD Candidate, QUT); PhD title: "Social media and emergency communications. An Analysis of legal vulnerabilities"
- Jacinta Buchbach (PhD Candidate and Research Assistant, QUT); PhD title "Regulation of social media at work: balancing employer legitimate business interests against employee autonomy"

### ***End users***

- LEAD: Mr Andrew Richards, Community Engagement Manager, State Emergency Services, NSW
- Ms Amanda Leck, Australasian Fire and Emergency Service Authorities Council
- Mr Gwynne Brennan, Country Fire Authority, VIC
- Mr Anthony Clark, NSW Rural Fire Service, NSW
- Mr Trent Curtain, Metropolitan Fire Brigade, VIC
- Mrs Fiona Dunstan, SA Country Fire Service, SA
- Ms Reagan Key, Fire Services Commissioner, VIC
- Mr Ben McFadgen, Victorian State Emergency Service, VIC
- Ms Jennifer Pidgeon, Department of Fire & Emergency Services, WA
- Ms Rowena Richardson, Office of the Inspector General Emergency Management, QLD
- Ms Samantha Chard, Attorney-General's Department, ACT
- Ms Suellen Flint, Department of Fire and Emergency Services, WA
- Ms Sandra Barber, Tasmania Fire Service, TAS
- Ms Wendy Kelly, Attorney-General's Department, ACT