

# How does information really flow in communities during a natural disaster?

**Susan Atkinson**

University of Canberra



© 2023 by the authors.  
License Australian Institute for Disaster Resilience, Melbourne, Australia.  
This is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).  
Information and links to references in this paper are current at the time of publication.

Emergency services organisations strive to communicate important and relevant information during emergencies and disasters but research is showing that they are not necessarily the primary sources of information that people turn to. Many people rely on family, friends and local community groups to provide the information they need. This has implications for how communities prepare and respond and how the emergency management sector integrates and communicates.

Disaster management research recognises that communication with communities is critical to them responding to and recovering from a disaster and in building resilience. The public often takes an active role when disaster strikes and this is becoming more visible through the use of information and communication technologies. While information sharing and coordination are critical during a disaster event, particularly between response agencies, affected individuals and groups are sharing information and creating their own informal and formal networks, thus creating multiple levels of information sharing.

Social media is an important mode of communication as it facilitates access to timely and relevant information and provides people with opportunities to share their opinions, news and links in real-time. It promotes ‘a feeling of connectedness’. It is critical to understand how people find information, co-create new information with others and share information to support each other during crises. For example, what sources do people use, what information do they look for and share and what decisions do they make?

Through understanding how community communication ecologies spontaneously form in emergency situations, we can improve cooperation and coordination between communities and response agencies and improve the outcomes for affected communities.

Bushfires, the COVID-19 pandemic and floods have highlighted the complex challenges faced by citizens and authorities in preparing for and responding to extreme events. In Australia, as elsewhere, natural high-risk hazards have enormous effects. These effects are not just physical but have long-lasting adverse consequences for individuals and communities in relation to physical and mental health and the ability to recover and thrive in the months and years that follow.

The increase in frequency and severity of separate and compounding disasters in Australia has meant more and more people are experiencing bushfires, heatwaves, droughts and floods firsthand. In addition, internal migration is changing the composition of communities and people’s experiences of these events varies enormously.

Decades of emergency management research reinforces that communication with communities is critical to them responding to and recovering from disasters and in building resilience.<sup>1</sup> It also suggests there is a significant and growing gap between the expectations of citizens for reliable and timely information and the communication strategies and capabilities of authorities. Much research is focused on response agencies and how they communicate with affected communities and less on understanding who is being reached, what information people look for and the decisions they make.<sup>2,3</sup>



It is critical to understand how people find information, co-create new information with others and share information to support each other during crises.

Image: Yuri Arcurs, [www.peopleimages.com](http://www.peopleimages.com)

The emergency communication ecology is complex and comprises many actors. The main actors are the authorities that are charged with the formal response functions. However, they are not the only actors and, increasingly, they are not the only source of information. Other sources include community groups, individuals such as family members and friends as well as other members of social networks.

People have always talked to each other to share stories, information and to create community in social networks that share values and help each other. The foundation of community is people and relationships between people. How do we build relationships? We talk to each other. Communication is the enabler that allows relationships and communities to form. This interpersonal communication is the foundation of information ecologies that facilitate the flow of information within social groups and is more critical in times of crisis.

Prior to the advent of the internet, the main sources of news and information about emergencies and disasters were through traditional media channels such as television and radio. In addition, communities relied on the information they received from their local emergency services agencies such as the fire service and police as well as from neighbours, friends, families and other community-based groups. Community members are now using information and communication technologies that allow individuals and groups to share information and create their own informal and formal networks, thus creating multiple

levels of information sharing. And people are not just sharing information verbatim. They are finding information from many sources, talking to others and creating new information that they share with their social networks.

## Changes in the media environment

Social media is an important mode of communication. Since the advent of digital media, the number of people who use digital technologies and social media to access news and information as steadily, and exponentially, increased, which has influenced how people get the information they want.

Reviews following fires and floods have repeatedly found that communication with affected communities has been less than optimal and a major contributing factor to poor outcomes for people and communities. Over decades, there has been a reduction in trust in government and in its capacity to respond in timely and effective ways. There is a realisation that natural hazards may be too large and affect so many people that emergency services agencies cannot be everywhere at once. Many communities are demonstrating a preference and capability to take on a higher level of responsibility for preparedness and response activities. In addition, emergency services agencies are realising that they need to find ways to integrate with communities to leverage local knowledge, skills and experience and communication is fundamental to this.

## Community connectedness – a critical element

Australian research conducted by Taylor and colleagues<sup>4</sup> used in-depth interviews (192 participants) and an online survey (430 respondents) to explore community experiences of the 2022 floods. Their comprehensive final report highlighted several key communication-related findings. In response to the survey question about respondent's most useful source of information on social media, 'local community groups' was the most selected option (35%) followed by 'official sources – QFES/NSW SES/BOM' (23.6%) (p.49). In addition, over 68% of the total sample strongly agreed or somewhat agreed with the statement, 'I will rely more on local information from community in future flood events'. Themes that emerged from the interviews highlighted the need for local information, changing information expectations and the role of communities in preparedness and response.

## Implications for communication

In an emergency situation, the normal patterns and expectations of daily life are altered and communication flows within communities can be significantly disrupted. This triggers new ways of sourcing and sharing information and creating new communication ecologies. Understanding the information flows and existing communication ecologies within communities, as well as how new networks emerge, contributes to unified communities where information needs are better understood and people feel more connected because fewer people are excluded.

In developing communication strategies, we need to set aside assumptions that if only the message, channel and timing of communication were right, people would understand what to do and then do it. Individuals have their own perceptions of risk based on many factors and when groups of people come together there is necessarily a negotiation of what constitutes shared risk and what the responses could be. Communication is a vital part of how a community works and engages with different perspectives and experiences. During emergencies, responding agencies provide huge amounts of data, often in formats that are not easily understood and are often not specific enough to a local area to be useful for people making individual and group decisions.

## Significance and innovation – why is this important?

There are several significant gaps in emergency communication research. One concerns the target population for communication. In Australia, in 2017 more than 2.8 million people did not use the internet.<sup>5</sup> Another large gap is the lack of research into crisis communication from the citizen's perspective, particularly related to what information they look for, where they go to look for it and what decisions they make. There is a lack of understanding of the way people source and share information. This is compounded when we consider it from a community perspective. Communities are complex ecologies that are made up of individuals and subgroups including informal social

networks, neighbours and local community groups, friends and family. There are also formalised networks such as workplaces, sporting clubs and volunteer organisations.

Through placing the audience at the centre, academia, government and industry can better understand people's communication needs and information-seeking behaviours and how communication ecologies spontaneously form. Through better understanding, responsible authorities can increase communication capabilities within communities and improve cooperation and coordination between communities and response agencies.

## Endnotes

1. Royal Commission into National Natural Disaster Arrangements 2020, *Royal Commission into National Natural Disaster Arrangements Report*. Canberra, Australia. At: <https://naturaldisasterroyalcommission.gov.au/>.
2. Macnamara J 2016, *The Work and 'Architecture of Listening': Addressing Gaps in Organization-Public Communication*. *International Journal of Strategic Communication*, vol. 10, no. 2, pp.133–148. doi:10.1080/1553118.X.2016.1147043
3. Eriksson M 2018, *Lessons for Crisis Communication on Social Media: A Systematic Review of What Research Tells the Practice*. *International Journal of Strategic Communication*, vol. 12, no. 5, pp.526–551. doi:10.1080/1553118X.2018.1510405
4. Taylor M, Miller F, Johnston K, Lane A, Ryan B, King R, Narwal H, Miller M, Dabas D & Simon H 2023, *Community experiences of the January-July 2022 floods in New South Wales and Queensland – Final Report*. *Natural Hazards Research Australia*. At: [www.naturalhazards.com.au/floods2022](http://www.naturalhazards.com.au/floods2022).
5. Australian Bureau of Statistics 2018, *Household use of information technology for 2016-17 financial year*. At: [www.abs.gov.au/statistics/industry/technology-and-innovation/household-use-information-technology/latest-release](http://www.abs.gov.au/statistics/industry/technology-and-innovation/household-use-information-technology/latest-release).