

A STATEMENT ON RESEARCH PRIORITIES FOR
NATURAL HAZARDS EMERGENCY MANAGEMENT IN AUSTRALIA

The provision of warnings and information during emergencies has emerged over the last decade as a critical element of modern emergency management. In Australia, leadership and innovation in this area has seen significant progress across legislation, policy, operational practice, research and the use of technology. A national focus to better engage and empower communities has propelled change and continuous improvement.

Whilst the 2009 Victorian bushfires and subsequent Royal Commission has driven national action on improving how communities are warned, fire is only one of the emergencies confronting Australians each year. A number of large-scale events including cyclones and flooding in Queensland, and earthquakes in New Zealand, have presented challenges and opportunities to improve the way that warnings and information are provided to communities.

The National Review of Warnings and Information, led by Emergency Management Victoria (EMV) in partnership with the Australasian Fire and Emergency Service Authorities Council (AFAC) Warnings Group provided an opportunity to investigate, across a multi-hazard and national sphere, how warnings and information are provided to communities. The Review considered both warnings about hazards, such as those provided by the Bureau of Meteorology, and warnings about the potential impact of an incident, typically provided by emergency services and other statutory authorities. Exploration of strengths, challenges, opportunities and good practice was undertaken, across a number of themes.

This paper presents key outcomes of the above elements in a consolidated view.



The provision of warnings and information during emergencies has advanced significantly in recent years. Governments and agencies have invested time and resources into this area, with a range of evidence highlighting that 'warnings' are considered to be a modern emergency management priority. There is a strong call for increased national governance and coordination of public information practice development. The National Warnings Group has put together a terms of reference to help foster innovation and press issues in relation to national arrangements and protocols. The aim is to provide clarity on the authority and status of agreements in the emergency management sector.

Warnings frameworks provide agencies and practitioners with a standardised approach to assessing the need for, and issuing of, warnings and information to communities during emergencies. In recent years, many jurisdictions have continued to look for opportunities to build consistency of public information frameworks and protocols across different hazards. A number of different hazard specific frameworks are currently in place and some practitioners believe that more can be done to improve national harmonisation of protocols. Others caution against harmonisation which might compromise warnings for specific hazards and confuse communities. This highlights the need for evidence based change.

- **How can knowledge management on warnings and information be consolidated and harmonised for practitioners?**
- **What can government and the emergency management sector do to enable greater national consistency of warning frameworks across jurisdictions?**

Practitioners and researchers agree that the success of warnings during an emergency is highly dependent upon prior efforts to build community preparedness and resilience. The concept of a 'total warnings system' draws an explicit connection between community preparedness and the provision of warnings during emergencies. The discipline of public information should always be considered in this broader community resilience and public safety context.

Research stresses the importance of community trust in information and warnings to motivate community response. In addition, it highlights that communities will seek to validate information before acting on it, regardless of the source or level of warning provided. The use of local information and recognition of local and personal networks are critical to effective warning provision, and public information policy makers can better integrate this knowledge into warnings practice.

Many agencies and practitioners are building real-life experience on the value of well targeted warnings, and the effects of poorly targeted warnings, including warning fatigue. Recently completed research provides insight into factors that contribute to warning fatigue and actions which can mitigate the effects of this phenomenon.

- **How can we develop agreed research methods and commission targeted research which focuses on community behaviour and response to warnings across diverse hazards?**
- **How can the emergency management sector further develop understanding of warning fatigue and means to counteract this?**

Significant progress has been made by a number of agencies in recent years to provide information and warnings using a range of technologies. A multi-channel approach to provision of information and warnings has been an aim of emergency services for some years now and is embodied in the nationally adopted Emergency warnings guidelines and principles (2007). Agency capacity to utilise a diversity of channels is continuing to develop well, with many now focused on better tailoring and targeting of messages through this multi-channel approach.

Many states and territories have established shared multi-hazard warnings websites, often run by a government department rather than a single emergency service. Providing a single point of truth enacts sound principles for provision of warnings and information, however current challenges being tackled include presentation of multi-hazard information in a single interface and building the credibility of these new channels.

The rapid growth of social media over the last decade has seen it emerge as one of the most dynamic channels used to share information, and the use of social media during emergencies featured prominently in discussion throughout the Review. Findings highlight a need for more mature policy on the adoption and use of social media, along with advancement of practical tools and solutions.

- **What warning technology priorities, including all technical, visual and spatial options, should the emergency management sector invest in for further exploration into effective warnings and warning dissemination?**

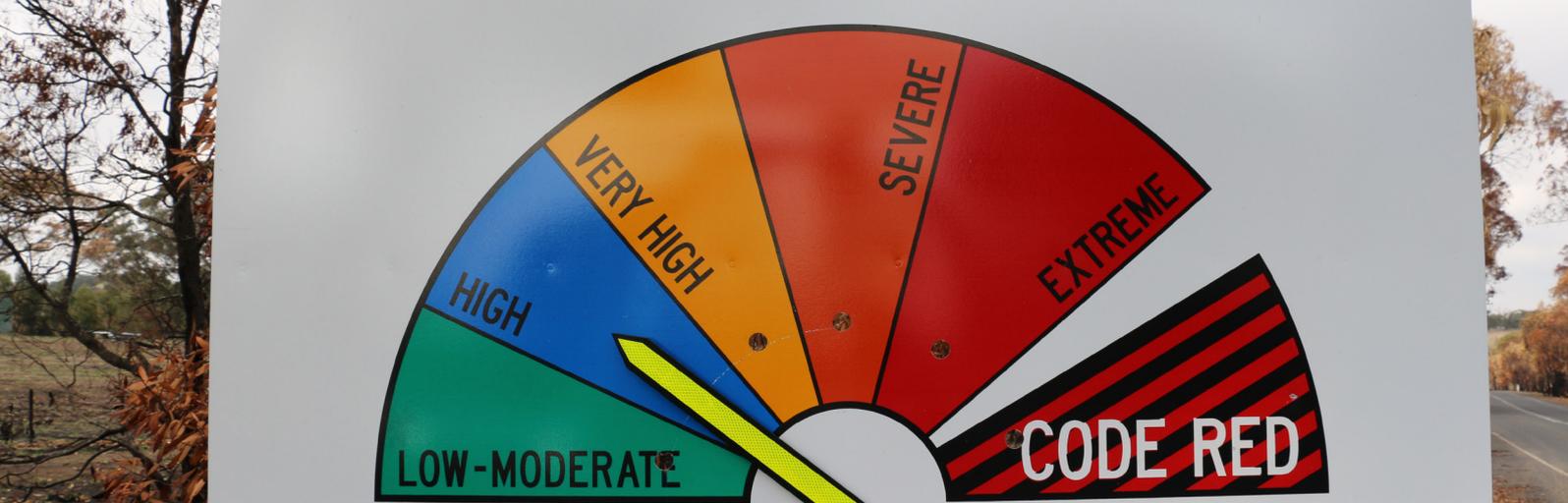
There are increasing community expectations for emergency services to engage in two-way communication during emergencies via active listening, information exchange and engagement with communities. This spans not only social media channels but others including community meetings and broadcast radio. For most agencies, a shift to this style of communication represents a substantial and challenging change in how warning communication is managed and requires a continued focus on innovating and developing solutions, particularly in the area of spatial, geo-located and visual information.

There is opportunity to develop a nationally agreed position on how to best interact with third parties, and to engage with these groups to build a stronger, shared code of practice. Interaction with the media on days of high activity can also be improved, to ensure that the state-wide situation and priorities are clearly understood.

Emerging research suggests that strategies which empower communities to share information and warnings help to foster shared responsibility and resilience. While there are concerns and very real challenges to address, this is a critical feature of focus for future warnings practice.

The next frontier for warnings has seen a transition from purely text-based warnings to more dynamic and visual content. National collaboration and shared investment is needed in this area to create economies of scale, collectively partner with and influence technology providers and to develop common standards.

- **How can the sector improve the use of social media, placing immediate focus on: the use of social media as a 'two-way' conversation with communities; resourcing; and sharing of current innovation and good practice across agencies?**
- **How can government and the emergency management sector build better partnerships with third parties to improve development and dissemination of warnings? Including and increased focus on providing more accessible and sharable?**



National research priorities for natural hazards emergency management

What are the most significant natural hazard emergency management issues Australia faces over the next 10 years?

This was the question posed to emergency service agencies around Australia in a series of workshops hosted by the Bushfire and Natural Hazards CRC from 2015-2017.

This publication is an outcome of one of these workshops and part of a broader national research agenda in natural hazards emergency management being developed by the CRC.

The workshops provided an exploration of major issues that would benefit from the support of research at a national level. There was no attempt to solve any of the issues or problems raised nor was there any discussion on the details of specific research projects. The participants discussed the issues they believed were relevant to the specific topic under discussion, the relative importance of the issues and the reasons underpinning their relative importance.

This series of publications summarises the outcomes of the workshops conducted so far – more will take place in 2017. They provide a guide for future research activities by identifying national priorities across major themes. The workshop outcomes have also influenced the evolving research agenda of the CRC.

This statement summarises the findings of the National Review of Warnings conducted by Emergency Management Victoria in collaboration with all states, territories and the Commonwealth, and overseen by a national, multi-hazard Steering Committee. Funding for the Review was provided through the National Emergency Management Project (NEMP) grants program.

