

# Over 50 stakeholders involved in providing natural disaster data and research



Government



Emergency services



Research organisations



Universities



Community organisations



Private sector



Industry associations



# 1. Introduction

## Key points

This paper builds on 'Building our Nation's Resilience to Natural Disasters', providing an analysis of data and research associated with natural disasters in Australia.

The recommendations of this report seek to contribute towards the Productivity Commission's Inquiry into Australia's natural disaster funding arrangements and the growing recognition by stakeholders of the need for better co-ordination and transparency of disaster risk and resilience information.

Deloitte Access Economics was commissioned by the *Australian Business Roundtable for Disaster Resilience and Safer Communities* to provide an analysis of data and research associated with natural disasters in Australia.

This report investigates the decision-making challenge and identifies the strengths and weaknesses of Australia's approach to natural disaster data and research. It makes recommendations for a more efficient, transparent approach to enable effective decision-making.

## 1.1 Background

This report builds on previous work commissioned by the *Australian Business Roundtable for Disaster Resilience and Safer Communities*, which analysed the opportunities for Australia to design a more sustainable and comprehensive national approach to making communities safer and more resilient. The paper, 'Building our Nation's Resilience to Natural Disasters', launched in June 2013, offered three key recommendations as outlined in Box 1 below.

**Box 1:** 'Building our Nation's Resilience to Natural Disasters' – Recommendations for a fresh, sustainable approach to pre-disaster resilience:

- Improve co-ordination of pre-disaster resilience by appointing a National Resilience Advisor within Prime Minister and Cabinet and establishing a Business and Community Advisory Group.
- Commit to long-term annual consolidated funding for pre-disaster resilience.
- Identify and prioritise pre-disaster investment in resilience that delivers a positive net impact on future budget outlays.

The implementation of these recommendations, particularly in relation to the consolidation of long-term funding for pre-disaster resilience, requires a best practice approach to the collection and provision of information. As noted in the paper:

*“A national strategy to improve resilience needs to find ways to better co-ordinate relevant data held by all parts of government and business so that decisions can be made on the best available information” (2013:51)*

Awareness of these issues across stakeholders is high.

For example, in November 2013, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) hosted a workshop with over 35 representatives from government, private companies and emergency service organisations to discuss the need to develop a ‘system of systems’ for disaster management. While the workshop was focused on disaster response and recovery, the key challenges raised are also relevant to information sharing on resilience<sup>2</sup>:

- Constraints related to data interoperability and standards
- Inconsistencies in the methods, channels and terminology used to communicate risk
- A lack of governance around data and information
- Uncertainty around the quality of data
- Unclear linkages and provenance between data, models and other information (CSIRO, 2014).

More recently, the Attorney General’s Department and CSIRO hosted another workshop focused on disaster mitigation. Attended by more than 50 representatives from government, emergency services, research agencies, universities and the private sector, the objectives of the workshop were to:

- Consider a vision for disaster mitigation in Australia in 2030
- Develop a shared understanding of a model of the disaster mitigation value chain and the range of information, tools and methods required to inform disaster mitigation investment decisions

- Compile a stocktake of recent, current and planned work that contributes to mitigation investment decisions in the context of the value chain
- Consider stakeholder needs and identify gaps
- Identify priorities for future work across the value chain to address gaps towards the 2030 vision.

The workshop helped inform the ongoing work program of the Australia-New Zealand Emergency Management Committee with respect to natural disaster mitigation as well as informing the Productivity Commission Inquiry referred to below.

The effectiveness and sustainability of Australia’s natural disaster funding arrangements is currently the subject of a Productivity Commission Inquiry. The purpose of the Inquiry is to identify reforms to achieve a balance between recovery and mitigation to help communities better prepare for disasters. The Issues Paper notes that:

*“Identifying the optimal level of disaster mitigation, resilience and recovery at an aggregate level is arguably elusive... However, it is possible... to identify reforms to governance, institutional arrangements and decision-making processes that make it more likely that decision-makers will face the appropriate incentives and make appropriate risk management decisions. Benefit-cost assessment is integral to such decision-making and will inform actions that will tend to lead to outcomes that are closer to the optimum.”*

Source: Productivity Commission 2014:5-6

This report seeks to contribute to these activities by assessing Australia’s approach to natural disaster data and research and by making recommendations to ensure that critical information is efficient, open, transparent and available to enable effective decision-making by the spectrum of end users.

The accessibility and consistency of data and research for decision-makers is an important determinant of the effectiveness of resilience investments and, hence, the ability for Australia to achieve outcomes that are closer to the optimum.

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2 CSIRO 2014, ‘Building a system of systems for disaster management workshop: joint issues statement’

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## 1.2 Approach

The analysis presented in this paper relies on an evidence base developed through:

- A consideration of the **end users** of research and data in the context of the **Australian policy framework**, developed through consultations with representatives from major research institutions and representatives from the *Australian Business Roundtable for Disaster Resilience and Safer Communities*
- A review of the current **data** holdings relevant to natural disaster risk and exposure in Australia, based on detailed discussions with relevant stakeholders
- An evaluation of the key **research** activities that have occurred or are planned to occur between 2009 to 2021, based on desktop research, quantitative analysis and consultations
- An evaluation of different models for the organisation of data and research, considering **international examples** in the context of natural disasters, as well as the organisation of research in other sectors of Australia.

This approach has allowed us to develop recommendations for improved co-ordination of natural disaster research and data to address the decision-making challenge.

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## 1.3 Report structure

The remainder of this report is structured as follows:

- **Chapter 2** establishes the framework used for assessing natural disaster data and research, describes the current policy context in this area and highlights the economic justification of access to information
- **Chapter 3** presents a summary of current data relating to natural disasters that underlie the research activities on resilience and highlights examples where this does not align with key policy principles
- **Chapter 4** provides an overview of natural disaster research activities in Australia
- **Chapter 5** highlights lessons for the organisation of data and research in Australia, drawing on the approaches taken internationally and in other sectors
- **Chapter 6** makes recommendations for improved co-ordination of natural disaster information in Australia and provides concluding remarks.

Supporting information is provided in the following Appendices:

- **Appendix A** provides context around natural disasters and resilience in Australia by summarising the key findings of the paper *'Building our Nation's Resilience to Natural Disasters'*, highlighting key areas of relevance for this report
- **Appendix B** provides additional international evidence on natural disaster data and research
- **Appendix C** provides additional description of the role of different stakeholders in natural disaster research in Australia.