



## Building a disaster resilient Australia on a solid foundation of expertise, evidence and networks.

Our nation's future well-being depends on the resilience of our communities, cities and ecosystems. Building resilience is about the smart and informed actions we can take now so that the impact of inevitable future shocks and stresses are minimised.

### A CRITICAL NEED

Over the coming decades, Australians will experience disasters with increasing frequency and severity, and on a scale beyond our current experiences. The economic, social and environmental impacts of these events will be unprecedented and unsustainable. How we understand and contend with this, and how we work to reduce the impact is the challenge we face. With a concerted, collaborative, national effort, we can harness expertise and leadership from research, government, fire and emergency services and industry to find new ways to adapt and respond to disaster risk.

### The increasing frequency, scale and impact of natural hazards and disasters is a threat to the sustainability of the Australian way of life

Australians are accustomed to living with many different hazards; from storm, flood and cyclone to drought, bushfire and extreme heat. The steadily increasing occurrence, scale and impact of these hazards demands new ideas and solutions.

### Decision-makers need evidence, information and tools to make the necessary critical decisions

Decisions made without evidence introduce new risks. We have some of the data and scientific modelling, but we need to better equip leaders with the right information, insight and confidence to make decisions about Australia's future.

### Complex challenges need dedicated, sustainable, national research

Solving the complex and interdependent problems inherent in building Australia's disaster resilience requires diverse disciplines to work together in collaborative partnerships. Failing to connect research on climate adaptation and disaster risk reduction, denies logical synergies and hinders progress. Individual research outcomes can fall short of industry requirements due to the lack of shared objectives or a multi-disciplinary approach to answering critical questions

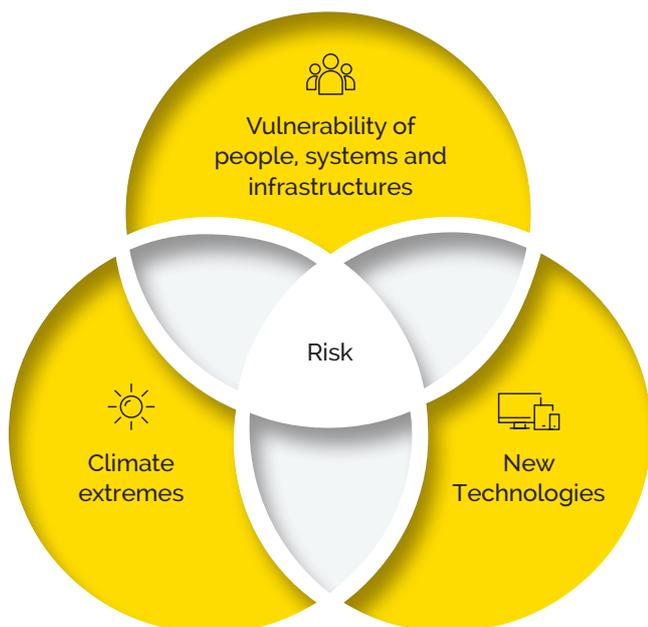
### NATIONAL AND GLOBAL CONTEXT

Australia's **National Disaster Risk Reduction Framework** sets out a long-term vision, clear goals and four national priorities to reduce the physical, social and economic harm caused by disasters.

Internationally, Australia is a signatory to both the United Nations **Sendai Framework for Disaster Risk Reduction 2015-2030** and the 2015 United Nations **'Paris Agreement'** to combat climate change and adapt to its effects.

*By 2030, the Sendai Framework aims to achieve: "The substantial reduction of disaster risk and losses in lives, livelihoods and health, and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries."*

Recognising the impact of the increasing number of disasters in our region, Australia's leadership in the south Pacific area is also of critical importance. The Pacific Islands Forum's 2018 **Boe Declaration** on Regional Security, of which Australia is a signatory, calls for recognising climate change as the single greatest threat to the livelihoods, security and wellbeing of peoples of the Pacific.



## THE SCOPE

As outlined in recent National Resilience Taskforce's **profiling Australia's Vulnerability** the interconnectedness of Australia's population, systems and infrastructure are at the core of the disaster risk discussion. Vulnerability converts exposure to shocks and strains into damages and impacts. How can vulnerabilities be reduced?

**Demographic change** is inherent in a country like Australia. The population is growing, ageing and becoming more diverse. Cities and towns are expanding into rural and coastal zones. How is demographic change affecting vulnerabilities?

**Climate extremes** impacts are expected to increase in line with global temperature increases. Extreme and rare weather events of the past are becoming the norm and the unimaginable is becoming possible. How can we better predict and prepare for extreme events?

**New Technologies** are rapid and widespread – in telecommunications, building and construction materials, and in the home and workplace. It presents both opportunities and risks. What impact does technological change have on the vulnerable, the exposed and the unprepared as well as the agencies? AI-assisted decision making, and big data will impact our planning and response. New hardware such as robotics and drones will impact our resourcing.

## PRIORITIES FOR RESEARCH

End-users of research have articulated the problems that need to be supported by research. Over the last two years, the Bushfire and Natural Hazards CRC has consulted extensively with research investors and partners to define four key research priorities for the decade ahead:

1. Shared responsibility and community engagement
2. Communicating risk and understanding the benefits of mitigation
3. Impacts of climate change
4. Predictive services and warnings

## THE BENEFITS OF NATIONAL RESEARCH

A dedicated national disaster risk and resilience research institute, accessible to all, will significantly contribute to reducing the impact of hazards and disasters in Australia.

- Disaster risk reduction policies and strategies will be based on evidence.
- Emergency management practices and policies will be nationally consistent, leading to better and faster adoption.
- Shared investment in research delivers value for money outcomes, and makes a substantial, multi-dimensional research agenda possible.
- Australia will continue to be globally acknowledged for research capability and leadership in advancing disaster resilience through a network of researchers, government and industry.

## COLLABORATIVE SCIENCE FOR IMPACT

A long-term, trusted national entity for these collaborations is needed, with a dedicated focus on disaster risk reduction research. The essential elements are available: research expertise and acumen, with a track record of delivery and impact in the community, industry knowledge and leadership, government commitment and clear policy objectives.

What is now needed is the sustained financial capacity to invest in its success, and a shared agreement to contribute and collaborate across traditional boundaries and borders.

**The capability and capacity exists. All that is needed is ongoing investment.**

