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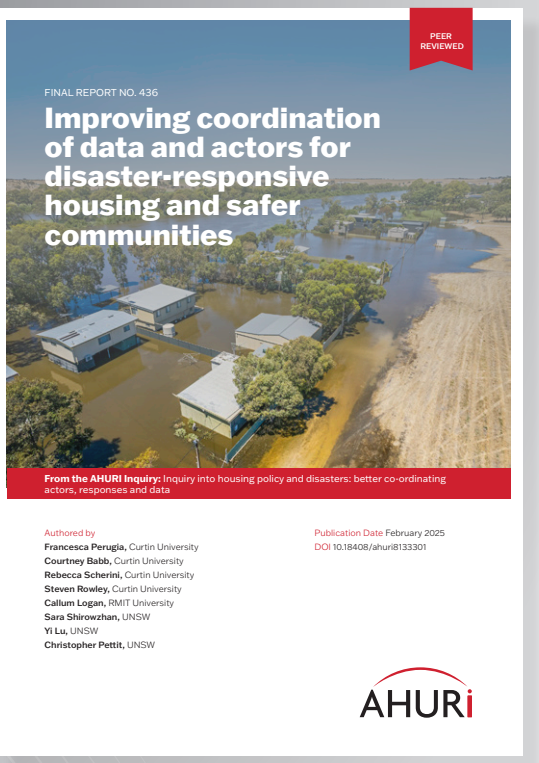
RESEARCH SUMMARY

Managing data better can reduce the impact of future disasters on housing

From the AHURI Inquiry into housing policy and disasters: better co-ordinating actors, responses and data.



What this research is about

This research examines how governments and organisations involved in planning and delivering housing use data to assess risks associated with flooding, bushfires and cyclones. It explores ways to use and share data better in order to reduce the impact of disasters.

Why this research is important

Having access to quality data plays a crucial role in managing and mitigating natural hazard risks. It enables authorities to make efficient and informed decisions regarding what land is used for housing and development. Good data is essential to inform strategies for reducing risks and enhancing preparedness for disasters. It can also improve coordination of disaster response and post-disaster recovery activities.

Based on

Final Report No. 436: *Improving coordination of data and actors for disaster-responsive housing and safer communities*

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View the report

Key findings

There are barriers to using hazard data

Australia's scattered and complex data system means disaster-related data suffers from poor availability, low quality and a lack of accessibility.

While data exists, it's spread across different government agencies and private companies—often in formats that don't align and on platforms that don't work together.

Three types of data are essential to assess disaster risks

- **Hazard data** shows where natural disasters might affect populated areas. Lack of standardisation is a particular problem for this type of data, especially for flooding. This makes it difficult to compare information across different regions and sectors.
- **Exposure data** is linked directly to the hazard level and impact—increased exposure causes more damage. Impact data reveals actual damage from disasters, including building damage, injuries and financial losses. It is held by emergency management agencies and insurance companies and is mostly not accessible due to privacy or commercial issues.
- **Vulnerability data** captures and links how and where people live, and their social and economic characteristics to identify how these factors make them more likely to be harmed in the case of a disaster event. This type of data is not broadly considered in risk assessment.

Stakeholders find it difficult to access relevant data to inform their decisions

While data access has got better over time, information about potential and actual disaster impacts remains hard to get. Government departments often work in isolation, creating a gap between planning and housing policies. Planning systems also struggle to keep up with new information.

Digital support tools can bring together data from different sources

Digital sharing platforms such as Spatial Digital Twins can help by bringing different datasets together in one place.

This helps with data sharing and improves efficiencies in using data in decision-making.

'Australia's scattered and complex data system means disaster-related data suffers from poor availability, low quality and a lack of accessibility.'

Policy actions

Three main interventions are needed to improve data-driven decision-making:

Data control

- establish an overarching system responsible for mapping and measuring data quality and availability
- support government agencies to build internal capacity to use and share data
- improve how government agencies can work with other organisations to share information safely.

Risk assessment

- make planning systems more flexible and create processes for better assessment of risk
- set up standard ways to assess risk across government and insurance sectors
- create single agencies to manage flood data in Victoria and New South Wales
- establish national protocols for flood data modelling.

Digital technology capacity and maturity

- supply the right technology to all groups involved. Train staff to use new digital tools and improve how agencies work together on decisions.

Research design

This research reviewed the availability of data for three natural hazards; explored the current decision-making processes, focussing on New South Wales, Victoria and Western Australia; and interviewed government agency representatives, housing providers, developers and financial institutions.

To cite the AHURI research, please refer to:

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Available from the AHURI website at ahuri.edu.au/research/final-reports/436