



Queensland cyclone 2009
Key Topics:

- engineering [2]
- flood [3]
- mitigation [4]


Cost-effective mitigation strategy for flood prone buildings [5]
This research was targeted at assessing mitigation strategies to reduce the vulnerability of existing residential building stock in Australian floodplains. The project addressed the need for an evidence base to inform decision making on the mitigation of the flood risk posed by the most vulnerable Australian houses and complements parallel CRC projects for earthquake and severe wind. Through this project, the research team developed a building classification schema to categorise Australian residential buildings into a range of typical storey types, reviewed national and international mitigation strategies, and developed a floodproofing matrix to assess strategies for select storey types. The results of this research form an evidence base to inform decision making by government and property owners on the mitigation of flood risk by providing information on the cost effectiveness of different mitigation strategies.

Project: detail Notabs


Research team

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Description

The motivation for this project arises from the experience and observations made during the 2011 and 2013 floods in Australia, which caused widespread devastation in Queensland. Considerable costs were sustained by all levels of government and property owners to effect damage repair and enable community recovery.

A fundamental reason for this damage was inappropriate development in floodplains and a legacy of high risk building stock in flood prone areas. While the vulnerability and associated flood risk for newer construction is being addressed (moderated) by new standards (ABCB, 2012), building controls and land use planning, the vulnerability associated with existing building stock remains. This vulnerability contributes disproportionately to overall flood risk in many Australian catchments.

This research addressed this issue and is targeted at assessing mitigation strategies to reduce the vulnerability of existing residential building stock in Australian floodplains. The project addressed the need for an evidence base to inform decision making on the mitigation of the flood risk posed by the most vulnerable Australian houses and complements parallel CRC projects for earthquake and severe wind.

The project has developed a building classification schema to categorise Australian residential buildings into a range of typical storey types. Mitigation strategies developed nationally and internationally have been reviewed. A floodproofing matrix has been developed to assess appropriate strategies for the selected storey types. All appropriate strategies have been costed for the selected storey types through the engagement of quantity surveying specialists. Vulnerability curves have been developed featuring reduced losses achieved through appropriate mitigation strategies for the five selected storey types.

[Read the final report here.](#) [24]

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01 APR 2016

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Publications

| Year | Type | Citation |
|------|------------------|--|
| 2021 | Report | Dale, K. [6], Maqsood, T. [9] & Wehner, M. [8] Cost-effective mitigation strategy development for flood prone buildings – final project report [24]. (Bushfire and Natural Hazards CRC, 2021). Google Scholar [42] BibTeX [62] EndNote XML [100] |
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| 04 May 2016 | Hardening buildings and infrastructure - cluster overview [130] | 0 bytes | [131] (0 bytes) [132], engineering [2], infrastructure [132], multi-hazard [133] |
| 24 Oct 2016 | Cost-effective mitigation strategy development for flood prone buildings [134] | 3.28 MB | [135] (3.28 MB) [136], engineering [2], flood [3], mitigation [4] |
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[149] 28 AUG 2014

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[149]

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[150] 18 AUG 2015

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[151] 12 AUG 2016

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[151]

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[153] 30 JUN 2017

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[153]

ENGINEERING [2], FLOOD [3]

The main objective of this research was to assess the strength and durability implications of immersion of...



[154] 30 JUN 2017

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BUILT ENVIRONMENT [156]

Prof Michael Griffith
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Cost-effective mitigation strategy for flood prone buildings
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