

People and Property Safety

Aim

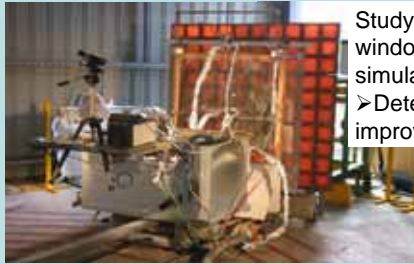
The objective of this research is to provide essential tools to predict and manage risk posed by bushfire to the community and infrastructure

Challenge

The main challenge is to provide solutions that minimise cost and impact on environmental and lifestyle value systems.

Infrastructure performance in bushfire *Laboratory and full scale simulation*

Glazing system



Study the performance of window systems under bushfire simulation
 > Determine factors that can improve window performance

Fencing system



Assess the performance of steel and timber commercial fencing systems
 > Investigate fencing systems as a form of bushfire protection for houses
 > Study potential propagation of flame and embers

Water tank



Water tanks are critical to active and passive suppression
 > Assess water tank failure at varying levels of exposure

Future work

- > Timber deck design
- > Vegetation surrounding house
- > Performance of shed

Lessons from the past

Historical data analysis

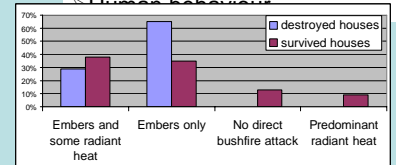
Over the past 50 years an average of 118 houses have been lost annually



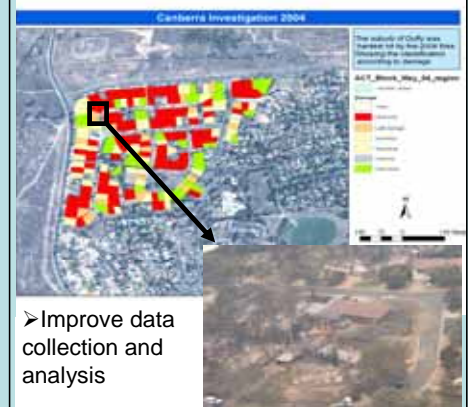
Post bushfire investigation



Data collection:
 > Mechanisms of attack
 > House design and placement
 > Details of outbuildings and surrounding environment
 > Human behaviour



Spatial navigable database



Methodology

Risk Analysis

Determine likelihood

Determine Consequences

Understand how each bushfire attack mechanism impacts on building design and how human behaviour decreases or increases the risk of ignition

Predict the risk of destruction of housing at the bushfire interface

Outcomes

- > Provide effective risk mitigation strategies
- > Provide scientific support for the evolution of AS3959 (Building in bushfire prone area)
- > Tools for community education
- > Guidelines for policy development
- > Recommendations for fire agencies, town planners and architects

Contact

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