



bushfire&natural
HAZARDSCRC

Natural Hazards Research

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Australian Government
Department of Industry,
Innovation and Science

Business
Cooperative Research
Centres Programme

A COOPERATIVE RESEARCH CENTRE

- 1) A joint venture between Commonwealth, End-users (state emergency, fire and land agencies) and researchers
- 2) Pooled value model – sum of the parts greater than individual efforts



BUSHFIRE AND NATURAL HAZARDS CRC

From 1 July 2013 under Australian Government CRC Program

- a) \$47m over 8 years;
- b) Total funds \$130M (cash and in-kind)

Approximately 50 partners:

- a) ~30 end user organisations
- b) ~20 research organisations



BUSHFIRE AND NATURAL HAZARDS COOPERATIVE RESEARCH CENTRE

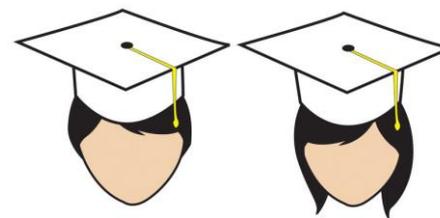
38+ Projects

200+

80+



Researchers



PhD students

In 2015-16 Financial Year



book chapters



Journal papers

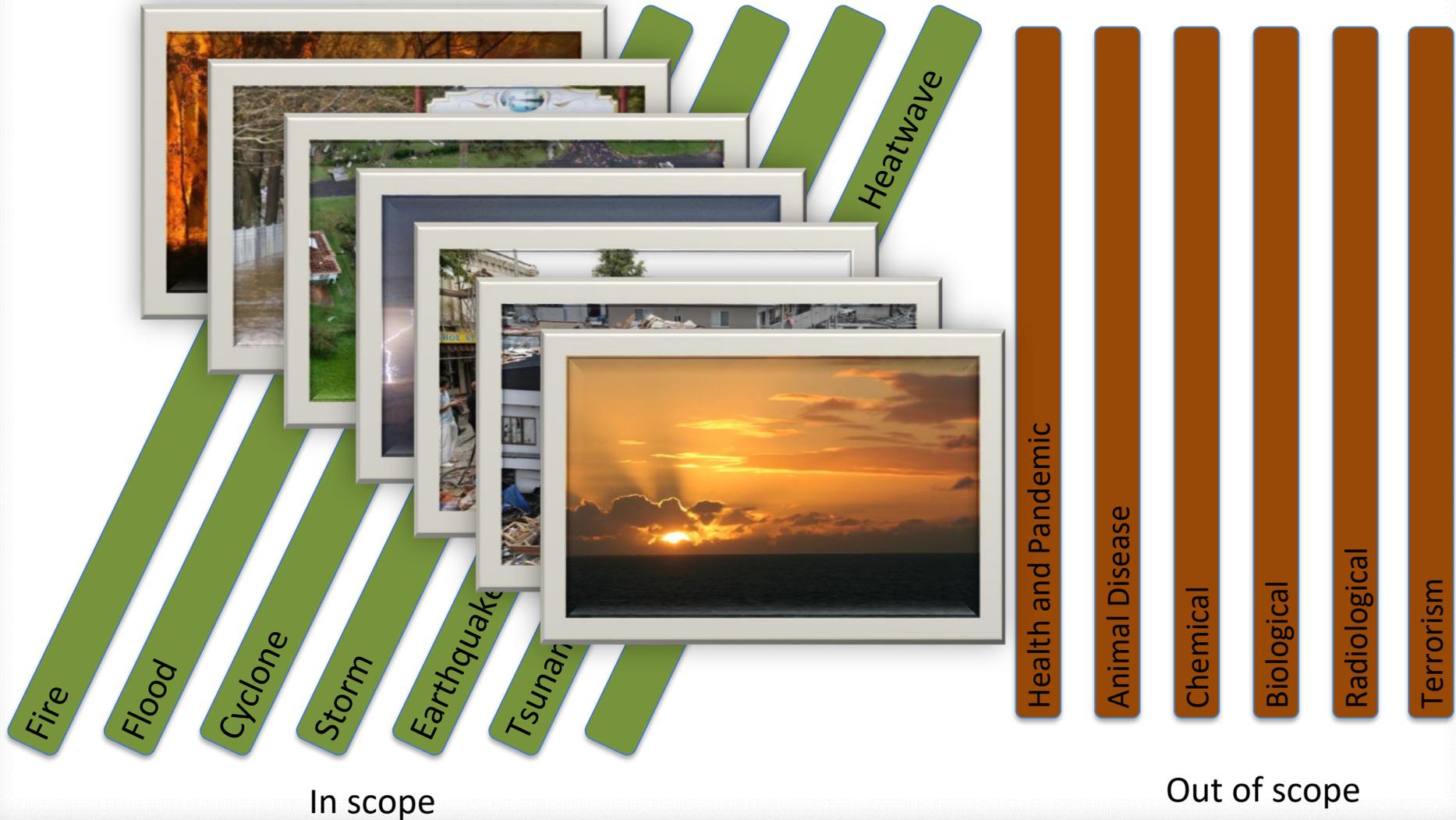


Conference papers



Reports

WHAT ARE WE DOING?



CRITICAL SUCCESS FACTORS



- R2O
- Use is everything
- Multi-disciplinary
- End-user focussed – not researcher-led
- Plan early for use.
- Ongoing engagement
- Ongoing communications

FIRE WEATHER FIRE OUTLOOK



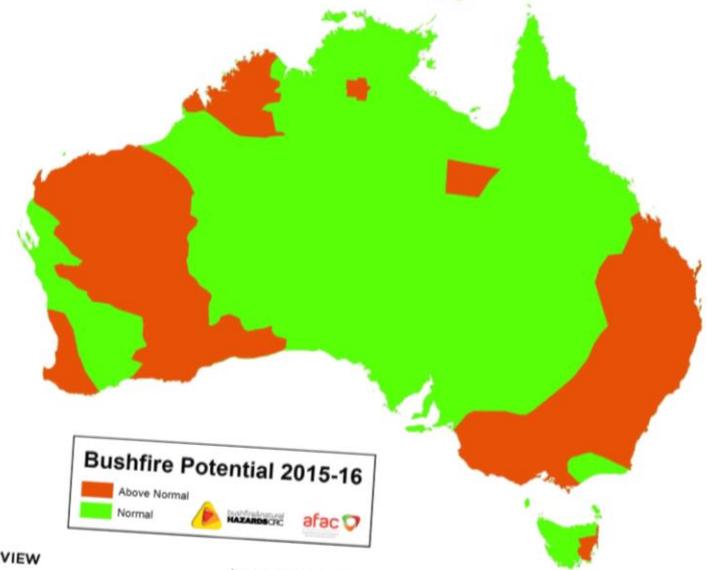
HAZARD NOTE



ISSUE 010 SEPTEMBER 2015

TOPICS IN THIS EDITION | FIRE WEATHER | FUEL MANAGEMENT

SOUTHERN AUSTRALIA SEASONAL BUSHFIRE OUTLOOK 2015-16



OVERVIEW

The Seasonal Bushfire Outlook for southern Australia is used by fire authorities to make strategic decisions on resource planning and prescribed fire management for the upcoming fire season. The outlook is developed at an annual workshop convened by the Bushfire and Natural Hazards CRC and the Australasian Fire and Emergency Service Authorities Council (AFAC).

At the 2015 workshop in Perth in August, the outlook was assessed and a range of broad climate factors were considered.

In assessing the bushfire potential for any given year, it is important to take into account not only the amount of rainfall in the immediately preceding months but the long-term rainfall deficit across southern Australia.

Leading into this year, many areas have consistently received below average annual rainfall across successive years. This has produced a cumulative reduction in soil moisture levels and increasingly dry forests and grasslands.

In addition to these long-term trends, other climate drivers, such as the currently strengthening El Niño-Southern Oscillation

event across the Pacific and the warmer waters associated with the Indian Ocean Dipole, may further increase the severity and duration of the upcoming fire season.

Such impacts will challenge the limited resources of the fire and land management agencies and have created the situation where each fire season is likely to be more demanding than the last, both in economic and human costs.

The above map shows the bushfire outlook for southern Australia through to 2016. This map has been combined with an updated outlook for the northern Australia bushfire season, which was first released in mid July, to show

SUBSCRIBE | All Hazard Notes are available at www.bnhcrc.com.au/hazardnotes

Share on:

EDUCATE THE CHILD, EDUCATE THE COMMUNITY

Research identified the importance of involving children in active bushfire preparations for the benefit of the whole community.



'UNOFFICIAL' VOLUNTEERS



MODELS FOR 'WHAT IF?' SCENARIOS

What if?' scenario
modelling

Identifying the costs and
consequences of various
options on preparing for
major disasters

Potential impacts on
infrastructure and natural
environments



ENHANCING EMERGENCY WARNINGS

Testing the wording and structure of warning messages

Understanding how messages are understood and translated into action



FOCUS ON NORTH AUSTRALIA IMPACTS ACROSS AUSTRALIA



RESEARCH INFORMS FLOOD SAFE CAMPAIGN

The NSW State Emergency Service have used flood research to back a public flood safety campaign



MANAGING ANIMALS IN DISASTERS

Pets

Farming stock

Native wildlife



For their sake...

**Know your bushfire risk...
and make a plan for all your family.**

For more information visit www.cfs.sa.gov.au
Bushfire Information Hotline 1300 362 361 (TTY 133 677)



POST EVENT STUDIES



COMMUNITY AWARENESS OCTOBER
RESEARCH FOR THE

Lyndsey Wright (Ed.), J Bushfire CRC, La Trobe University



SUMMARY
After a major bushfire impacted communities less than two kilometres from Adelaide's suburban edge in January 2009, the South Australian Country Fire Services (CFS) commissioned this research to explore how the residents' and factors affected residents' planning, preparation and actions on the day, the influence of CFS Community Fire Safe groups on bushfire safety, and the effectiveness of information and warnings for people living in the rural-urban interface. The research followed studies conducted after other major bushfires. This study was unique because it provided some new insights, including that although the majority of people felt physically prepared for a fire, only half felt emotionally prepared for the impacts of the fire and its aftermath. Just over one quarter of respondents had a written bushfire survival plan (a strong result compared with the average seen in previous studies of two percent) and nearly 90% had had a discussion about what to do in the event of a bushfire. Being part of a Community Fire Safe group had a positive impact on both planning and preparation. This project showed that the collective learnings from other post-fire studies and the actions being taken by CFS to implement these findings are being translated into actions in the community.

ABOUT THIS PROJECT
This research was conducted for the CFS by the Bushfire and Natural Hazards CRC through the South Australian-based Aquatic Institute of CSU Adelaide. The CFS aims to use the findings to better support communities in preparing for bushfires and understanding its consequences. The study delivers valuable

SUMMARY
The research into the 2009 Sampson Flat bushfire in the northern Adelaide Hills provides a valuable insight into the community and organisational challenges that may arise in other rural-urban interface fires. The research draws on the community experiences of the fire to provide a greater understanding of how to meet these challenges, focusing particularly on three issues: 1) planning, preparation and actions; 2) CFS Community Fire Safe groups; and 3) information and awareness in the

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CRC RESEARCH
The research built on previous similar studies and used both qualitative and quantitative methodology. From 30 June until 31 August 2009, 543 residents in the fire-affected area

CAPTURING COMMUNITY BUSHFIRE READINESS: POST-BUSHFIRE INTERVIEW STUDIES 2009-2014



Above: The bush meets the urban interface in the New Blue Mountains, where fires impacted communities in October 2003. After the fire, CRC researchers interviewed local residents about their experiences. Photo: Gary F Hayes, provided by NSW RFS.

CONTEXT
Most Australian bushfire scientists predict that there will be more frequent severe bushfires threatening life and property, for two reasons: (a) climate change resulting in reduced rainfall and higher temperatures in many regions; and (b) an increase in the number of householders choosing to reside in areas of high bushfire risk. Economic constraints will limit governments' abilities to fund increased agency bushfire suppression capability. Residents will be expected to assume greater responsibility for their bushfire safety in the future.

SUMMARY
While governments will continue to fund fire and land management agencies to combat bushfires, there is now an expectation that residents should share responsibility for their safety and property protection. Fire agencies expend considerable resources on community bushfire safety education. One way to review the impact of these endeavours is to interview residents who experienced a serious bushfire threat about their pre-fire bushfire risk perception, their planning and preparation, and their actions when threatened. This *Hazard Note* summarises overall findings from seven post-bushfire interview studies conducted since 2009. A significant percentage of residents interviewed did not believe that they were at-risk and neither planned nor prepared for a possible bushfire. While many reported having a plan, written versions of such plans were rare. An appreciable percentage of residents whose plan was to leave had not prepared adequately to implement their plan safely. Very few residents self-evacuated early on the basis of fire danger weather predictions. New approaches to promoting community bushfire safety need to be developed, trialled and evaluated.

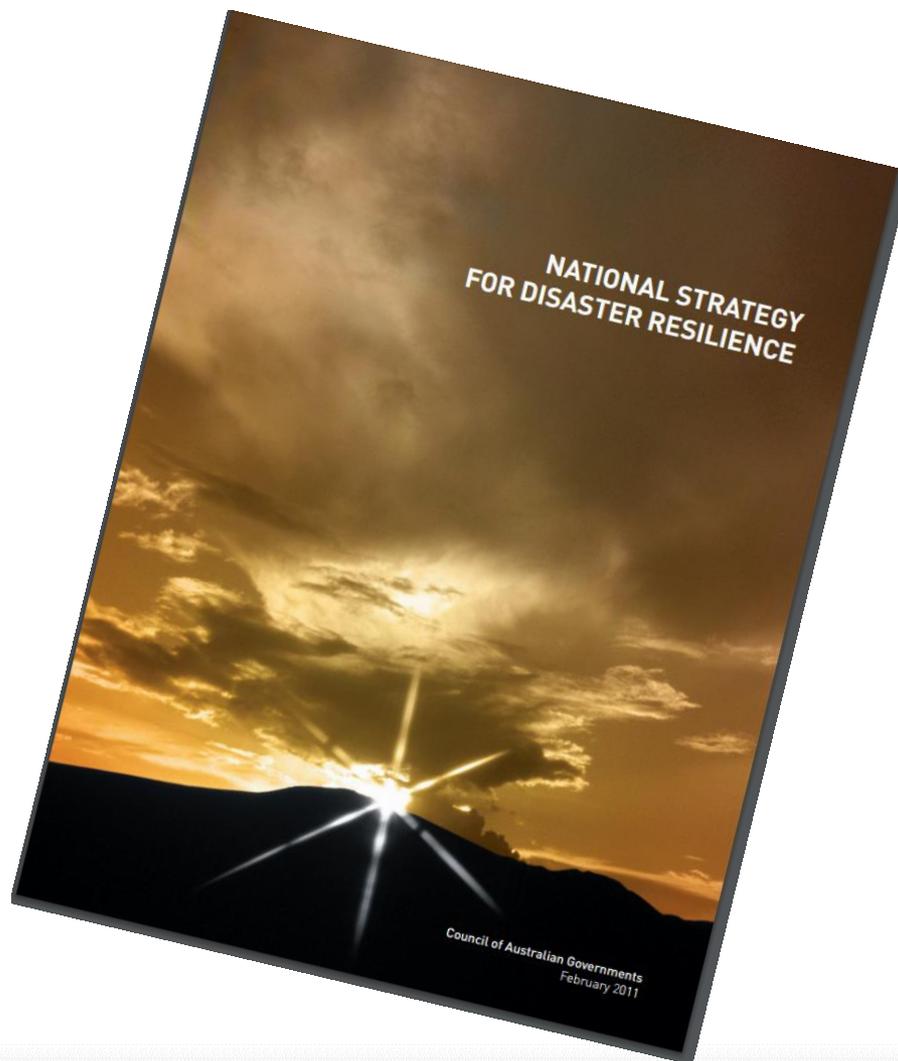
BACKGROUND
From 2001, the Australian Fire Authorities Council (now the Australasian Fire and Emergency Services Authorities Council) developed position statements on community safety in the face of imminent bushfire threat, culminating in 2005 with what became known as 'Prepare, stay and defend or leave early'. This position guided fire agencies' approaches to community bushfire safety prior to the 2008-2009 bushfire season. On 7 February 2009, 'Black Saturday', the worst bushfires in Australia's post-European settlement history, resulting in 175 deaths and the destruction of more than 2000 homes. Investigations for the 2009 Victorian Bushfires Royal Commission, including interviews with survivors conducted by a Bushfire CRC research task force, identified generally low levels of planning, preparation and safe

ABOUT THIS PROJECT
The studies described in this *Hazard Note* were conducted by Bushfire and Natural Hazards CRC and Bushfire CRC researchers, and involved interviews with members of communities threatened by destructive bushfires in Victoria, Western Australia, Tasmania and New South Wales from 2009-2014. The studies were conducted at the request of fire agencies in those states, and their purpose was to inform agencies about how residents understood bushfire

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NATIONAL POLICY CONTEXT

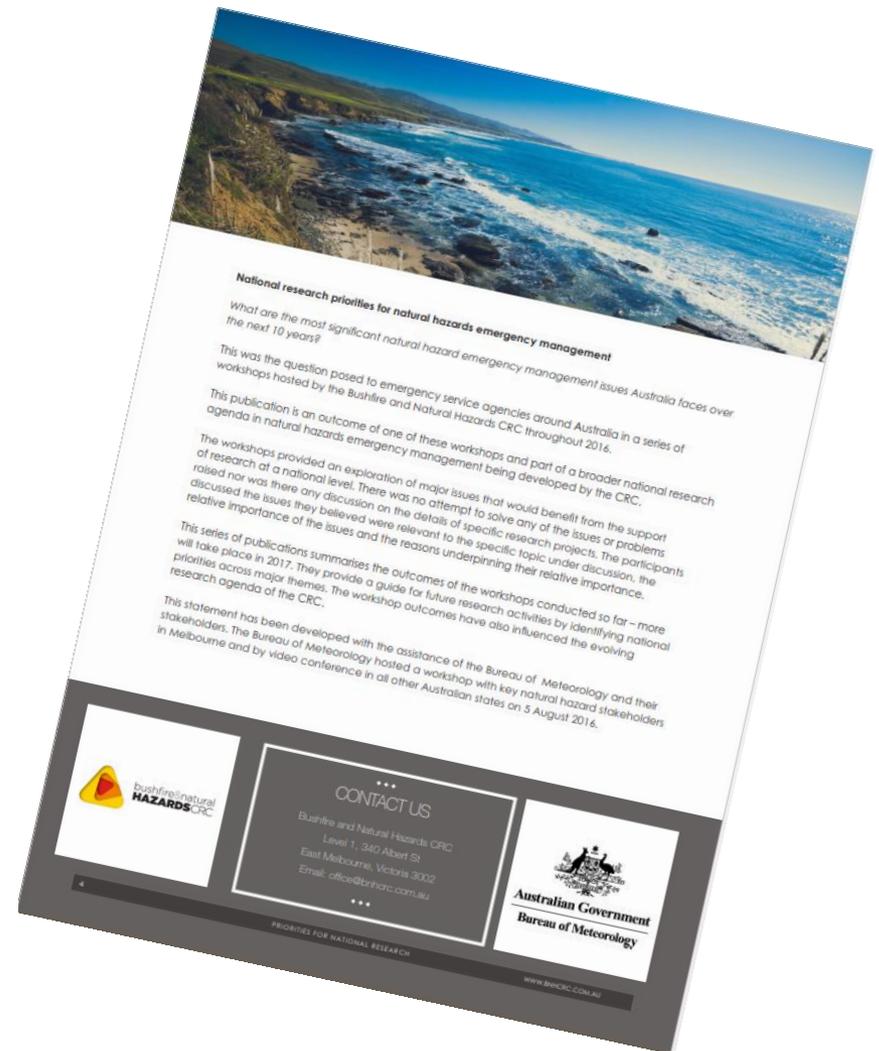


NATIONAL NATURAL HAZARDS RESEARCH AGENDA

What are the big research questions across fire and natural hazards for the next decade?

Broader than the CRC research program and current ability to fund necessary research, it

- Informs the 2017-2021 CRC research program.
- Will guide Australian research sector on high value areas of national strategic importance.



RESEARCH PROGRAM REFRESHED



KEEPING IN TOUCH

- 1) Annual conference and Showcase and Research Advisory Forums
- 2) Journal publications
- 3) www.bnhcrc.com.au
- 4) Hazard News and Hazard Notes – sign up on the website
- 5) Follow us on Twitter (@BNHCRC) and like us on Facebook

