



Reducing the risk through fuel reduction burning

- Key Topics:
- risk analysis [2]
 - risk management [3]
 - vulnerability [4]

Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale [5]

Current government spending on natural disaster response is more than 20 times the spending on preparedness. Many climate-related natural hazards are increasing, along with the number of people living in hazard-prone areas. Large natural disasters also cross domains, moving from the private to the public realm, and shifting from a local, to a state or national concern. This raises the potential of future, unmanaged risks.

This project mapped a broad range of economic, social and environmental values and related them to natural hazards across several case studies. It explored who owns these values and what happens when they cross domains, as well as how a range of alternative strategies may contribute to improved resilience by sustaining economic, social and environmental values in a changing environment.

Project: detail Notabs

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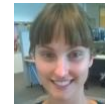


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Description

Current government spending on natural disaster response is more than 20 times the spending on preparedness. Many climate-related natural hazards are increasing, along with the number of people living in hazard-prone areas. Large natural disasters also cross domains, moving from the private to the public realm, and shifting from a local, to a state or national concern. This raises the potential of future, unmanaged risks.

The spending mismatch is well understood, but potential deficits in important social and environmental values are also faced that may not be adequately compensated. If a risk is owned, then the balance between preparedness and

response can be assessed. If the risk is un-owned, these values may be damaged and degraded, or lost.

The project mapped a broad range of economic, social and environmental values and related them to natural hazards across several case studies. It explored who owns these values and what happens when they cross domains, as well as how a range of alternative strategies may contribute to improved resilience by sustaining economic, social and environmental values in a changing environment.

Four decision making areas were identified where risk ownership can be assessed as part of strategic decision making.

- **Risk ownership was found to show an imbalance between the public and private sectors, which is potentially unsustainable.** In particular, allocation for state and local government was considerably higher for risk and consequences and risk actions than was for the ownership of values at risk.
- **Coordination between contributing agencies and agendas is needed to clarify ownership and support more effective management of activities and use of resources.** Risk ownership in areas contributing to resilience and risk reduction were found across multiple agencies and agendas. This was particularly the case in agencies who work with regional and community development and climate change adaptation. Coordination between contributing agencies and agendas is needed to clarify ownership and support more effective allocation and use of resources.
- **Risk ownership relevant to strategic decision making is ill-defined, particularly for longer term activities focusing on recovery and resilience building.** No long-term (two or more years) policy, plans or strategies for environmental or social recovery to natural hazards were found.
- **Knowledge gaps were found across long-term strategic horizons (two or more years)** in relation to mapping and identifying ownership of risks and consequences, and resilience and recovery activities – particularly for flood and heatwave hazards, and for social and environmental values.

To assist decision-makers, emergency managers and planners, the team developed a governance framework to support better understanding of risk ownership. The next stage of utilisation will involve training for practitioners on the best way to use the framework for their needs.

Achieving effective risk ownership requires a common understanding of how risks are changing and consensus and acceptance around who owns these risks and how they own them. This research goes beyond simple linear approaches, to a more adaptive and flexible approach focused on what values are identified as most important by risk owners.

[Access the risk ownership framework here.](#) [27]

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[29]



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[30]



01 JUN 2018

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[31]



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31 MAY 2018

[32]



Flammability modelling explored online
FIRE, REMOTE SENSING

16 APR 2018

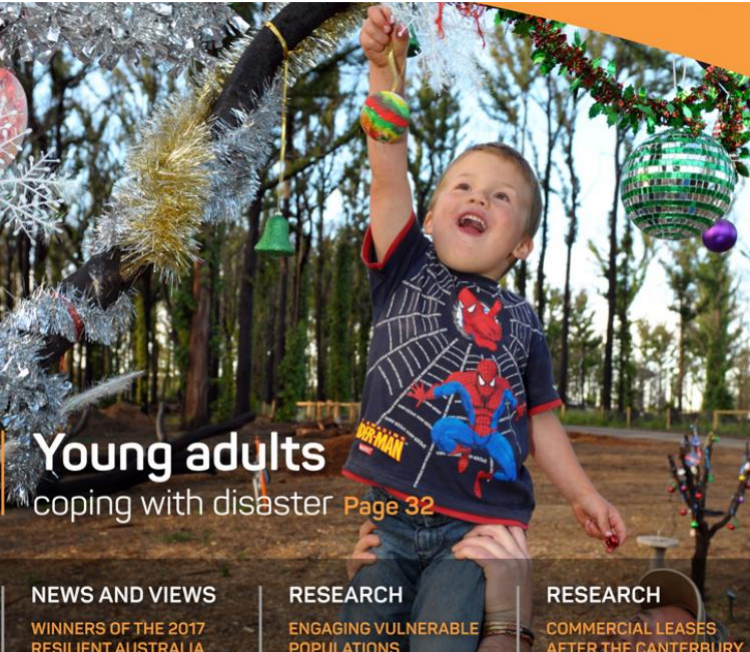
[33]



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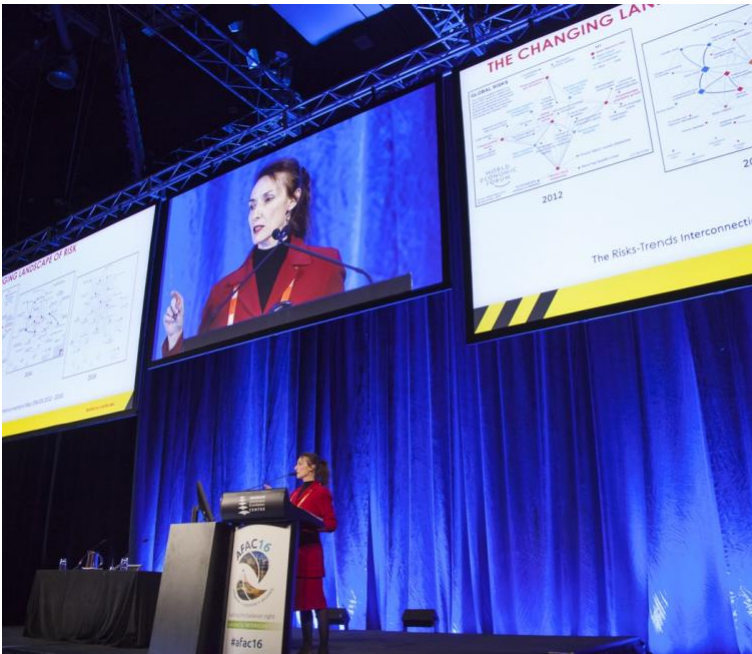
[38]



16 AUG 2017

Strategic risk workshop for AFAC17
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[43]



24 JUN 2016

Important research insights
ECONOMICS, FLOOD

[44]

Publications

Year	Type	Citation
2017	Conference Paper	Rumsewicz, M. [45] Research proceedings from the 2017 Bushfire and Natural Hazards CRC and AFAC Conference [46]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2017</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [51] BibTeX [52]
2017	Conference Paper	Young, C. [8] & Jones, R. [6] The uncomfortable conversation: understanding value through risk ownership [50]. <i>AFAC17</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [51] BibTeX [52]
2017	Report	Jones, R. [6], Young, C. [8] & Symons, J. [54] Mapping values and risks from natural hazards at geographic and institutional scales: framework development [55]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [60] BibTeX [61] EndNote XML [62]
2017	Report	Young, C. [8] & Jones, R. [6] Risk ownership for natural hazards: summary of key research findings [59]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [60] BibTeX [61] EndNote XML [62]
2017	Report	Young, C. [8], Jones, R. [6], Kumnick, M. [63], Christopher, G. [14] & Casey, N. [64] Risk ownership framework for emergency management policy and practice [27]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [60] BibTeX [61] EndNote XML [62]
2016	Journal Article	Young, C. [8] & Jones, R. [6] Owning the future: risk ownership and strategic decision-making for natural hazards [68]. <i>Australian Journal of Emergency Management</i> 31 , (2016). Google Scholar [69] BibTeX [70] EndNote XML [71]
2016	Report	Young, C. [8], Symons, J. [54] & Jones, R. [6] Institutional maps of risk ownership for strategic decision making [72]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [73] BibTeX [74] EndNote XML [75]
2016	Report	Young, C. [8], Jones, R. [6] & Symons, J. [54] Understanding values at risk and risk ownership workshop synthesis report [76]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [77] BibTeX [78] EndNote XML [79]
2016	Report	Young, C. [8], Jones, R. [6] & Symons, J. [54] Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale: Annual project report 2015-2016 [80]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [81] BibTeX [82] EndNote XML [83]
2015	Conference Paper	Rumsewicz, M. [45] Research proceedings from the 2015 Bushfire and Natural Hazards CRC & AFAC conference [84]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2015</i> (Bushfire and Natural Hazards CRC, 2015). Google Scholar [85] BibTeX [86] EndNote XML [87]
2015	Conference Paper	Jones, R. [6], Young, C. [8] & Symons, J. [54] Risk ownership and natural hazards: across systems and across values - peer viewed [88]. <i>Adelaide Conference 2015</i> (2015). Google Scholar [89] BibTeX [90] EndNote XML [91]
2015	Report	Young, C. [8], Symons, J. [54] & Jones, R. [6] Whose risk is it anyway? [92]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [93] BibTeX [94] EndNote XML [95]
2015	Report	Young, C. [8] & Jones, R. [6] Mapping and Understanding Bushfire and Natural Hazard Vulnerability and Risks at the Institutional Scale Annual Report 2014 [96]. (2015). Google Scholar [97] BibTeX [98] EndNote XML [99]
2015	Report	Young, C. [8], Jones, R. [6] & Symons, J. [54] Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale: Annual project report 2014-2015 [100]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [101] BibTeX [102] EndNote XML [103]
2014	Report	Young, C. [8] The Problem Solution Framework [104]. (2014). Google Scholar [105] BibTeX [106] EndNote XML [107]

Presentations & Resources

DATE	TITLE	DOWNLOAD	KEY TOPICS
27 Mar 2014	Mapping bushfire hazard and vulnerability and risk [110]	543.08 KB	hazard [110], vulnerability [4]
10 Apr 2015	Mapping and Understanding 2015 NSW RAF Presentation [112]	1.9 MB	hazard [112], vulnerability [2], vulnerability [4]
11 Sep 2015	Risk ownership of natural hazards: Across systems and across values [114]	334.97 KB	hazard [114], risk management [3]
17 May 2016	Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale [117]	2.81 MB	hazard [117], risk analysis [2], vulnerability [117]
30 Aug 2016	Owning the future: risk ownership and strategic decision-making for natural hazards - Celeste Young [119]	2.86 MB	hazard [119], risk analysis [2], risk management [119]
27 Oct 2016	Economics and strategic decisions - cluster overview [121]	0 bytes	hazard [121], economics [123], economics [124], policy [121]
15 Dec 2016	What can economics offer emergency services? [126]	891.78 KB	hazard [126], economics [123], economics [124], policy [126]
18 Apr 2017	Mapping and Understanding Natural Hazard Vulnerability at the Institutional Scale [128]	1 MB	hazard [128], vulnerability [124], multi-hazard [116], vulnerability [128]
07 Jul 2017	Understanding the value and challenges of risk mitigation [130]	4.17 MB	hazard [130], mitigation [132], resilience [133]
30 Aug 2017	Understanding what risk is yours - and what to do about it [134]	394.66 KB	hazard [134], policy [123], policy [125], risk management [134]
07 Sep 2017	The uncomfortable conversation: understanding value through risk ownership [136]	4.42 MB	hazard [136], multi-hazard [116], vulnerability [136]
01 Jun 2018	Fire Australia Issue Two 2018 [138]	6.73 MB	hazard [138], decision making [123], emergency management [138]
07 Sep 2018	AFAC18 - Continuing the conversation: Changing the emergency management sector for the better [142]	0 bytes	hazard [142], inclusion [144], organisational [145]
18 Jun 2019	Why risk ownership is important [146]	1.43 MB	hazard [146], inclusion [144], economics [124], policy [146]
09 Jul 2019	The Risk ownership Framework for Emergency Management Policy and Practice [148]	4.57 MB	hazard [148], emergency management [141]
27 Aug 2019	Shifts to the new abnormal: riding the waves of climate change [150]	1.16 MB	hazard [150], fire [152]
25 Nov 2020	Sharing the risk [153]		policy [125], risk management [3], vulnerability [4]

Posters

A poster titled 'Communicating Dynamic Risk in a Connected World; Perceptions and Possibilities' featuring a map of Australia and text about bushfire risk.

[154]

16 AUG 2015

Communicating Dynamic Risk in a Connected World; Perceptions and Possibilities

[154]

COMMUNICATION [155], RISK ANALYSIS [2]

Bushfires and natural hazards are a dynamic risk where risk levels are unpredictable and more likely to...

A poster titled 'Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale' showing a map of Australia with various risk levels indicated.

[156]

12 AUG 2016

Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale

[156]

DECISION MAKING [123], ECONOMICS [124]

The project has moved its focus from spatial mapping towards insitutional mapping to support strategic...

A poster titled 'Introducing the risk ownership framework for emergency management policy and practice' with a diagram showing the flow of risk ownership.

[157]

30 JUN 2017

Introducing the risk ownership framework for emergency management policy and practice

[157]

ECONOMICS [124], MULTI-HAZARD [116]

This project aims to develop a framework for understanding the ownership of risks from bushfires and natural...

Linked Projects

Economics of natural hazards

[158]

ECONOMICS AND STRATEGIC DECISIONS [159]

Dr Veronique Florec

University of Western Australia [160]



Improved decision support for natural hazard risk reduction

[161]

ECONOMICS AND STRATEGIC DECISIONS [159]

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Links

<https://www.bnhrcr.com.au/files/fuel-reduction-burn-vic.jpg> [2] <https://www.bnhrcr.com.au/research/topics/risk-analysis> [3] <https://www.bnhrcr.com.au/research/topics/risk-management> [4] <https://www.bnhrcr.com.au/research/topics/vulnerability> [5] <https://www.bnhrcr.com.au/research/vulnerabilityandrisk> [6] <https://www.bnhrcr.com.au/people/rjones> [7] <https://www.bnhrcr.com.au/organisations/vu> [8] <https://www.bnhrcr.com.au/people/cyoung> [9] <https://www.bnhrcr.com.au/people/symons> [10] <https://www.bnhrcr.com.au/people/cirvine> [11] <https://www.bnhrcr.com.au/organisations/sestas> [12] <https://www.bnhrcr.com.au/people/epikusa> [13] <https://www.bnhrcr.com.au/organisations/dewnr> [14] <https://www.bnhrcr.com.au/people/greg-christopher> [15] <https://www.bnhrcr.com.au/people/Greg-Christopher> [16] <https://www.bnhrcr.com.au/organisations/emv> [17] <https://www.bnhrcr.com.au/people/hofster> [18] <https://www.bnhrcr.com.au/people/fogarty> [19] <https://www.bnhrcr.com.au/organisations/delpw> [20] <https://www.bnhrcr.com.au/people/nkoteff> [21] <https://www.bnhrcr.com.au/organisations/nswrfs> [22] <https://www.bnhrcr.com.au/people/pcole> [23] <https://www.bnhrcr.com.au/organisations/dcsi> [24] <https://www.bnhrcr.com.au/people/pschell> [25] <https://www.bnhrcr.com.au/people/sflint> [26] <https://www.bnhrcr.com.au/organisations/dfes> [27] <https://www.bnhrcr.com.au/publications/biblio/bnh-3801> [28] <https://www.bnhrcr.com.au/news/2019/how-influence-people-research> [29] <https://www.bnhrcr.com.au/riskownership> [30] <https://www.bnhrcr.com.au/news/2018/risk-and-reward> [31] <https://www.bnhrcr.com.au/news/2018/making-difference> [32] <https://www.bnhrcr.com.au/news/2018/enhancing-teamwork-and-research-utilisation> [33] <https://www.bnhrcr.com.au/news/2018/flamability-modelling-explored-online> [34] <https://www.bnhrcr.com.au/news/2018/new-online> [35] <https://www.bnhrcr.com.au/news/2018/journal-focus-recovery-and-resilience> [36] <https://www.bnhrcr.com.au/news/2017/sharing-risk> [37] <https://www.bnhrcr.com.au/news/2017/briefing-enhance-policy> [38] <https://www.bnhrcr.com.au/news/2017/outstanding-achievements-recognised> [39] <https://www.bnhrcr.com.au/news/2017/strategic-risk-workshop-afac17> [40] <https://www.bnhrcr.com.au/news/2017/best-poster-crc-academic> [41] <https://www.bnhrcr.com.au/news/blogpost/celeste-young/2017/citizen-s-juries-panacea-policy-ills-or-transforming-governance> [42] <https://www.bnhrcr.com.au/news/2016/journal-publishes-important-research> [43] <https://www.bnhrcr.com.au/news/2016/new-online-october-2016> [44] <https://www.bnhrcr.com.au/news/blogpost/ed-pikusa/2016/important-research-insights> [45] <https://www.bnhrcr.com.au/people/michael-rumsewicz> [46] <https://www.bnhrcr.com.au/publications/researchproceedings2017> [47] http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22Research%2Bproceedings%2Bfrom%2Bthe%2B2017%2BBushfire%2B&and%2BNatural%2BHazards%2BCRC%2B&and%2BAFAC%2BConference%22&as_sauthors=Rumsewicz&as_oct=any&as_eq=&as_oq=&as_eq=&as_publication=&as_ylo=&as_yhi=&as_sdtAAP=1&as_sdt=1 [48] <https://www.bnhrcr.com.au/publications/biblio/export/bibtex/3946> [49] <https://www.bnhrcr.com.au/publications/biblio/export/xml/3946> [50] <https://www.bnhrcr.com.au/publications/biblio/bnh-3915> [51] http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22The%2Buncomfortable%2Bconversation%2B&and%2Bunderstanding%2Bvalue%2Bthrough%2Brisk%2B&and%2Bownership%22&as_sauthors=Young&as_oct=any&as_eq=&as_oq=&as_eq=&as_publication=&as_ylo=&as_yhi=&as_sdtAAP=1&as_sdt=1 [52] <https://www.bnhrcr.com.au/publications/biblio/export/bibtex/3915> [53] <https://www.bnhrcr.com.au/publications/biblio/export/xml/3915> [54] <https://www.bnhrcr.com.au/publications/biblio/?%5Bauthor%5D=752> [55] <https://www.bnhrcr.com.au/publications/biblio/bnh-3860> [56] http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22Mapping%2Bvalues%2B&and%2Brisks%2Bfrom%2BNatural%2BHazards%2B&and%2Bgeographic%2B&and%2Binstitutional%2Bscale%2B&and%2Bframework%2Bdevelopment%22&as_sauthors=Young&as_oct=any&as_eq=&as_oq=&as_eq=&as_publication=&as_ylo=&as_yhi=&as_sdtAAP=1&as_sdt=1 [57] <https://www.bnhrcr.com.au/publications/biblio/export/bibtex/3860> [58] <https://www.bnhrcr.com.au/publications/biblio/export/xml/3860> [59] <https://www.bnhrcr.com.au/publications/biblio/bnh-3802> [60] http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22Risk%2Bownership%2Bfor%2BNatural%2BHazards%2B&and%2Bsummary%2Bof%2Bkey%2Bresearch%2Bfindings%22&as_sauthors=Young&as_oct=any&as_eq=&as_oq=&as_oq=&as_publication=&as_ylo=&as_yhi=&as_sdtAAP=1&as_sdt=1 [61] <https://www.bnhrcr.com.au/publications/biblio/export/bibtex/3802> [62] <https://www.bnhrcr.com.au/publications/biblio/export/xml/3802> [63] [https://www.bnhrcr.com.au/publications/b](https://www.bnhrcr.com.au/publications/biblio/?%5Bauthor%5D=1135)

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