



After the fire at Wandong 2009

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- governance [2]
 - planning [3]
 - policy [4]

Scientific diversity and uncertainty in risk mitigation policy and planning [5]

There is a significant knowledge deficit concerning how science and other forms of knowledge are used and integrated into emergency management policy and practice, leading to incorrect and counterproductive misunderstandings. The emphasis on the value of scientific knowledge within the natural hazards sector – and particularly in regards to risk mitigation – is legitimate. However, to this point, this valuing of science has not been accompanied by research into the actual opportunities and challenges of using science in policy and practice.


This project has produced a number of journal articles documenting issues related to scientific uncertainty in bushfire and flood risk mitigation.

Project: detail Notabs

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Description

There is a significant knowledge deficit concerning how science and other forms of knowledge are used and integrated into emergency management policy and practice, leading to incorrect and counterproductive misunderstandings. The emphasis on the value of scientific knowledge within the natural hazards sector – and particularly in regards to risk mitigation – is legitimate. However, to this point, this valuing of science has not been accompanied by research into the actual opportunities and challenges of using science in policy and practice.

Science is a diverse world of knowledge and as such, it is ripe for debate, whether by scientists, politicians, policymakers or others. The fact that the research process is open-ended, in which uncertainties can often be reduced but not resolved, means there are often abundant reasons to delay decisions about how to proceed.

There are many obstacles to integrating science within government agencies, not the least of which are resource constraints. Other factors of institutional culture also influence how, and if, new research is utilised.

Without greater insight into how science and other forms of knowledge are used and integrated into sector policy and practice, the ability of policymakers and practitioners to explain risk mitigation and translate its scientific basis is compromised. The sector is also vulnerable to the perpetuation of received ideas and myths about science, its use and its utility.

This project has produced a number of journal articles documenting issues related to scientific uncertainty in bushfire and flood risk mitigation.

Case studies were undertaken in the Otway region of Victoria, and greater Darwin in the Northern Territory, both around bushfire and mitigation. A third case study explored flood risk in the Hawkesbury-Nepean Valley in New South Wales.

It is clear that scientific research, whether in a laboratory or a landscape, is never simply technical. The ways in which decision-makers and practitioners integrate and utilise science is a thoroughly social question, shaped by the capacities and affordances of the contexts in which they operate. While it is important to continue to place a high value on scientific research in the natural hazards sector, it is also important to remember that this research is embedded in social dynamics and social networks.

[Read the final report here.](#) [38]

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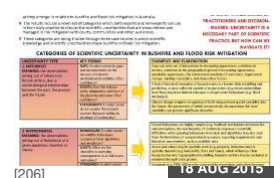
Publications

Year	Type	Citation
2021	Journal Article	Weir, J. [6], Neale, T. [19] & Clarke, E. [67] The recalibration of our relationships with science (and nature) by natural hazard risk mitigation practitioners [68]. <i>Environment and Planning E: Nature</i>
2020	Book Chapter	Dovers, S. [16] <i>Natural Hazards and Disaster Justice: Challenges for Australia and Its Neighbours</i> 51-71 (Palgrave Macmillan, 2020). doi:https://doi.org/10.1007/978-981-15-0466-2_3 DOI [73] Google Scholar [74]
2019	Conference Paper	Pikusa, E. [27] The mitigation exercise: a long term mitigation planning process, with a coastal flooding case study in Adelaide [77]. <i>AFAC19 powered by INTERSCHUTZ - Bushfire and Natural Hazards CRC & AFAC annual conference 2019</i> (Bushfire and Natural Hazards CRC, 2019). Google Scholar [78] BibTeX [79] EndNote XML [80]
2019	Report	Weir, J. [6], Neale, T. [19] & Clarke, L. [13] Scientific diversity, scientific uncertainty and risk mitigation policy & planning - final report [38]. (Bushfire and Natural Hazards CRC, 2019). Google Scholar [39] BibTeX [40] EndNote XML [41]
2017	Conference Paper	Rumsewicz, M. [85] Research proceedings from the 2017 Bushfire and Natural Hazards CRC and AFAC Conference [86]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2017</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [87] BibTeX [88] EndNote XML [89]
2017	Conference Paper	Weir, J. [6], Neale, T. [19] & Clarke, L. [13] Science is critical but it's not everything: our findings [90]. <i>AFAC17</i> (Bushfire and Natural Hazards CRC, 2017). Google Scholar [91] BibTeX [92] EndNote XML [93]
2017	Journal Article	Neale, T. [19] 'Are we wasting our time?': bushfire practitioners and flammable futures in northern Australia [94]. <i>Social & Cultural Geography</i> 1-23 (2017). doi:http://dx.doi.org/10.1080/14649365.2017.1345441 DOI [95] Google Scholar [96] BibTeX [97] EndNote XML [98]
2017	Report	Weir, J. [6] & Clarke, L. [13] Scientific diversity, scientific uncertainty and risk mitigation policy and planning: annual report 2016-17 [99]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [100] BibTeX [101] EndNote XML [102]
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2016	Conference Paper	Neale, T. [19] The social life of science in bushfire policy and planning: tales from Victoria and the Northern Territory [107]. <i>AFAC16</i> (Bushfire and Natural Hazards CRC, 2016). Google Scholar [108] BibTeX [109] EndNote XML [110]
2016	Journal Article	Neale, T. [19], Weir, J. [6] & Dovers, S. [16] Science in Motion: integrating scientific knowledge into bushfire risk mitigation in southwest Victoria [111]. <i>Australian Journal of Emergency Management</i> 1-10 (2016). doi:10.1080/00050120.2016.1191111 DOI [112] Google Scholar [113] BibTeX [114] EndNote XML [115]
2016	Journal Article	Neale, T. [19] Burning anticipation: Wildfire, risk mitigation and simulation modelling in Victoria, Australia [115]. <i>Environment and Planning A</i> 48 , 2026-2045 (2016). DOI [116] Google Scholar [117] BibTeX [118] EndNote XML [119]
2016	Journal Article	Neale, T. [19], Weir, J. [6] & McGee, T. K. [120] Knowing wildfire risk: Scientific interactions with risk mitigation policy and practice in Victoria, Australia [121]. <i>Geoforum</i> 72 , (2016). Google Scholar [122] BibTeX [123] EndNote XML [124]
2016	Journal Article	Magee, L. [125], Handmer, J. [10], Neale, T. [19] & Ladds, M. [126] Locating the intangible: Integrating a sense of place into cost estimation of natural disasters [127]. <i>Geoforum</i> 77 , (2016). DOI [128] Google Scholar [129] BibTeX [130] EndNote XML [131]
2016	Report	Weir, J. [6] & Neale, T. [19] Scientific diversity, scientific uncertainty and risk mitigation policy and planning: Annual project report 2015-2016 [132]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [133] BibTeX [134] EndNote XML [135]
2015	Conference Paper	Neale, T. [19] & Weir, J. [6] Science in motion: knowledge practices and prescribed burning in southwest Victoria - non peer reviewed extended abstract [136]. <i>Adelaide Conference 2015</i> (2015). Google Scholar [137] BibTeX [138] EndNote XML [139]
2015	Conference Paper	Rumsewicz, M. [85] Research proceedings from the 2015 Bushfire and Natural Hazards CRC & AFAC conference [140]. <i>Bushfire and Natural Hazards CRC & AFAC annual conference 2015</i> (Bushfire and Natural Hazards CRC, 2015). Google Scholar [141] BibTeX [142] EndNote XML [143]
2015	Journal Article	Neale, T. [19] & Weir, J. [6] Navigating scientific uncertainty in wildfire and flood risk mitigation: A qualitative review [144]. <i>International Journal of Disaster Risk Reduction</i> 13 , 255-265 (2015). DOI [145] Google Scholar [146] BibTeX [147] EndNote XML [148]
2015	Journal Article	Wodak, J. [12] & Neale, T. [19] A critical review of the application of environmental scenario exercises [149]. <i>Futures</i> 73 , (2015). Google Scholar [150] BibTeX [151] EndNote XML [152]
2015	Report	Neale, T. [19] Scientific Knowledge and Scientific Uncertainty in Bushfire and Flood Risk Mitigation: Literature Review [153]. (2015). Google Scholar [154] BibTeX [155] EndNote XML [156]
2015	Report	Neale, T. [19] & Weir, J. [6] Scientific Uncertainty and Risk Mitigation Policy and Planning Annual Report 2014 [157]. (2015). Google Scholar [158] BibTeX [159] EndNote XML [160]
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2014	Report	Wodak, J. [12] Scientific Diversity, Scientific Uncertainty and Risk Mitigation Policy and Planning Scenario Exercise Lit Review [165]. (2014). Google Scholar [166] BibTeX [167] EndNote XML [168]

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DATE	TITLE	DOWNLOAD	KEY TOPICS
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Navigating Scientific Uncertainty in Bushfire and Flood Risk Mitigation

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