

Key Topics:

- multi-hazard [2]
- resilience [3] • vulnerability [4]

The Australian Natural Disaster Resilience Index: A system for assessing the resilience of Australian communities to natural hazards [5]
This project developed an index of the current state of disaster resilience in Australian communities – the Australian Disaster Resilience Index. The Index is a tool for assessing the resilience of communities to natural hazards at a large scale and is designed to provide input into macro-level policy, strategic planning and community engagement activities at national, state and local government levels.

Deliverables include the development of disaster resilience indicators, maps of disaster resilience at multiples scales, a State of Disaster Resilience Report, and examples that use the Index in a natural hazard resilience planning

# Project: detail Notabs

### Research team

### Research leader



### Research team





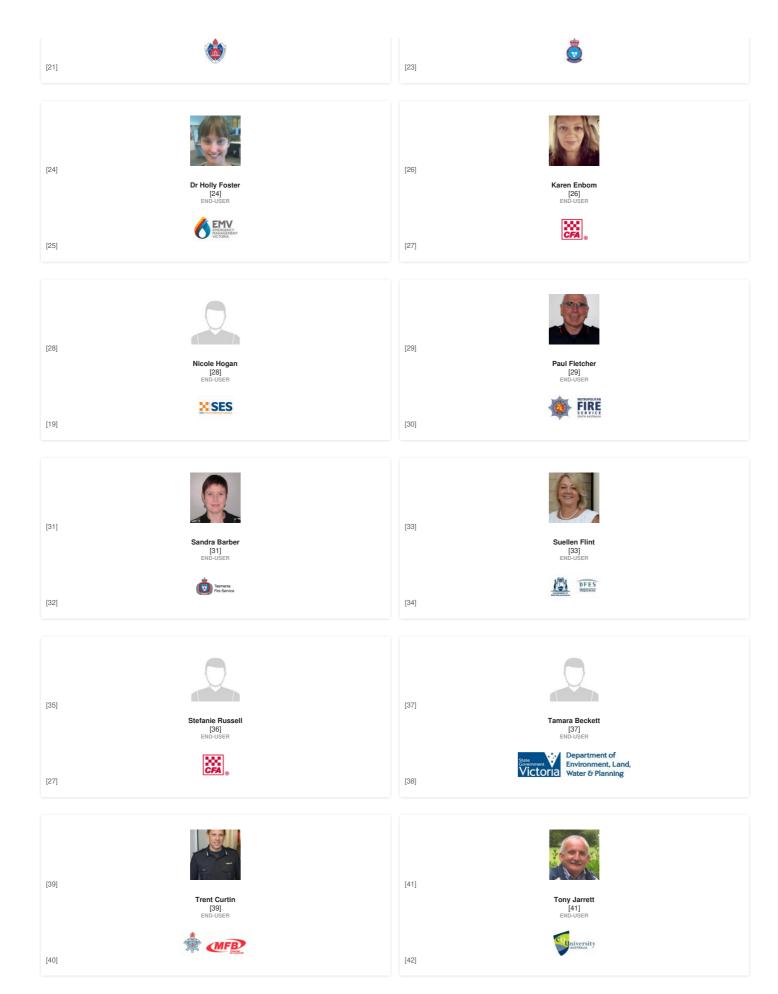




# End User representatives







# Description



Resilience is the capacity of individuals and communities to cope with disturbances or changes and to maintain adaptive behaviours. Australia's National Strategy for Disaster Resilience (NSDR) takes an internationally progressive approach in the application of a disaster resilience paradigm. This strategy gives communities greater options and diversity in managing natural hazards, and places natural hazard preparation, prevention, response and recovery in the context of societies learning from and adapting to change.

The NSDR recognises four characteristics of disaster resilient communities: 1) they function well while under stress 2) they adapt successfully 3) they are self-reliant and 4) they have strong social capacity. Building these characteristics of disaster-resilient communities is seen as a shared responsibility among individuals, households, businesses, governments and communities. Yet how could progress towards the development of these characteristics be assessed? Where are the areas of high and low disaster resilience in Australia? How could investments to develop disaster resilience be prioritised, evaluated and reported?

This project developed an index of the current state of disaster resilience in Australian communities – the Australian Disaster Resilience Index. The Index is a tool for assessing the resilience of communities to natural hazards at a large scale and is designed to provide input into macro-level policy, strategic planning and community engagement activities at national, state and local government levels.

First, it is a snapshot of the current state of natural hazard resilience at a national scale. Second, it is a layer of information for use in strategic policy development and planning. Third, it provides a benchmark against which to assess future change in resilience to natural hazards. Understanding resilience strengths and weaknesses will help communities, governments and organisations to build the capacities needed for living with natural hazards.

Deliverables include the development of disaster resilience indicators, maps of disaster resilience at multiples scales, a State of Disaster Resilience Report, and examples that use the Index in a natural hazard resilience planning context

The Index has application across local (e.g. local emergency management committees, local councils), state (e.g. emergency service organisations) and national (e.g. Attorney-General's Department, Red Cross, ANZEMC, AFAC)

The project team worked with end-users to align the results and outputs from the Index with agency policy and programs. The researchers worked with agencies to develop fact sheets that agencies can use in community profiling and community engagement tools. The Index results can also be included in risk assessments. The maps provide quantitative spatial information about resilience for community planning and community engagement activities.

### Related News



New online - July 2021

EMERGENCY MANAGEMENT, LAND MANAGEMENT

[44]



New online - May 2021 COMMUNICATION, MULTI-HAZARD

30 JUL 2021

25 MAY 2021



Making better use of research CAPABILITY, EMERGENCY MANAGEMENT

[46]



Floodplains aren't separate to a river — they're an extension of it. It's time to change how we connect with them COMMUNITIES, FLOOD

05 APR 2021

14 MAY 2021



Establishing a wider view of impact LOCAL KNOWLEDGE

[48]



New online - November 2020 COMMUNICATION, EMERGENCY MANAGEMENT

16 NOV 2020

18 NOV 2020



Latest AJEM edition features CRC research on post-disaster management EMERGENCY MANAGEMENT, MULTI-HAZARD

06 NOV 2020

[50]



The new Australian Disaster Resilience Index: a tool for building safer, adaptable communities MULTI-HAZARD, RESILIENCE

02 OCT 2020



Resilience research central to blueprint FIRE, FLOOD



New online - August 2020 COMMUNICATION, LOCAL KNOWLEDGE

17 SEP 2020

14 AUG 2020



A new measure of disaster resilience for Australian communities

MULTI-HAZARD, RESILIENCE

[54]



# e Australian Disaster Resilience Inc

Building safer, adaptable commur

CRC to launch industry-first disaster resilience website COMMUNITIES, RESILIENCE

20 JUL 2020



Science galore – key CRC event dates
EMERGENCY MANAGEMENT, PRESCRIBED BURNING

[56]



How to influence people with research

25 JUN 2019

30 JUN 2020



A model for relief and recovery MULTI-HAZARD, RESILIENCE

[58]



Research increasing preparedness CHILD-CENTRED, INDIGENOUS COMMUNITIES

12 DEC 2018

19 OCT 2018



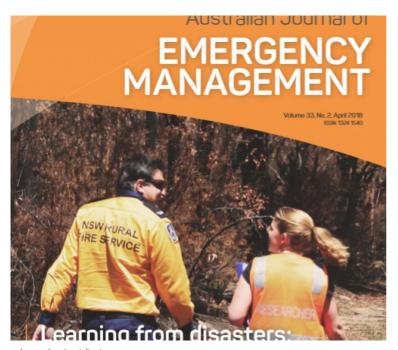
Making a difference FIRE, RISK MANAGEMENT



Enhancing teamwork and research utilisation COMMUNITIES, DECISION MAKING

01 JUN 2018

31 MAY 2018



Lessons learnt post-disaster EMERGENCY MANAGEMENT, MITIGATION



A model for relief and recovery

MULTI-HAZARD, RESILIENCE

[63]

04 MAY 2018

18 DEC 2017



New online - November 2017

[64]



Briefing to enhance policy
EMERGENCY MANAGEMENT, POLICY

20 OCT 2017

17 NOV 2017



Journal publishes important research

[66]



New online - September 2016

26 OCT 2016

14 SEP 2016



New online - August 2016

[68]



New online - March 2016

15 MAR 2016

16 AUG 2016



The cyclone doesn't come on pay day INDIGENOUS COMMUNITIES, NORTHERN AUSTRALIA

INDIGENOUS COMMONITES, NOTTHERN AS

[70]



Top end resilience discussed
INDIGENOUS COMMUNITIES, NORTHERN AUSTRALIA

05 JUN 2015

15 JUN 2015



Sendai through a different lens COMMUNITIES, RESILIENCE

16 APR 2015

[72]

### **Publications**

Year	Туре	Citation
2021	Journal Article	Parsons, M. [6] et al. Disaster resilience in Australia: A geographic assessment using an index of coping and adaptive capacity [73]. International Journal of Disaster Risk Reduction 62, (2021)
2021	Journal Article	McGregor, J. [10], Parsons, M. [6] & Glavac, S. [15] Local Government Capacity and Land Use Planning for Natural Hazards: A Comparative Evaluation of Australian Local Government Area
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 2: Indicators [83]. The Australian Natural Disaster Resilience Index (Bushfire and Natural Hazards CR
2020	Report	Parsons, M. [6] et al. The Australian Disaster Resilience Index: a summary [87]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [88] BibTeX [89] EndNote XML [90]
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 1: Design of the Index [91]. The Australian Natural Disaster Resilience Index (Bushfire and Natural Ha
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 6: Uncertainty and sensitivity analysis [95]. The Australian Natural Disaster Resilience Index (Bushfin
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Index Design and Computation [99]. The Australian Natural Disaster Resilience Index (Bushfire and Natural H
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 5: Statistical outputs: disaster resilience themes [103]. The Australian Natural Disaster Resilience
2020	Report	Parsons, M. [6] et al. The Australian Disaster Resilience Index: Volume I – State of Disaster Resilience Report [107]. The Australian Disaster Resilience Index (Bushfire and Natural Hazards CRC)
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 4: Statistical outputs: ANDRI, coping capacity and adaptive capacity [111]. The Australian Natural
2020	Report	Parsons, M. [6] et al. A typology of disaster resilience in Australia - annual report 2018-19 [115]. (Bushfire and Natural Hazards CRC, 2020). Google Scholar [116] BibTeX [117] EndNote XML [117]
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Volume II – Chapter 3: Computation of the Australian Natural Disaster Resilience Index [119]. The Australian Natural Disaster Resilience Index [119].
2020	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: a system for assessing the resilience of Australian communities to natural hazards - final project report [123]. (Bush
2018	Journal Article	Parsons, M. [6] & Thoms, M. [127] From academic to applied: operationalising resilience in river systems [128]. Geomorphology 305, 242-251 (2018). DOI [129] Google Scholar [130] BibTeX [130]
2018	Journal Article	Parsons, M. [6] Extreme floods and river values: A social-ecological perspective [133]. River Research and Applications 1-11 (2018). doi:https://doi.org/10.1002/rra.3355 DOI [134] Google Schola
2017	Conference Paper	Rumsewicz, M. [138] Research proceedings from the 2017 Bushfire and Natural Hazards CRC and AFAC Conference [139]. Bushfire and Natural Hazards CRC & AFAC annual conference 2017
2017	Conference Paper	Parsons, M. [6] & Lykins, A. [143] Cultural worldviews and natural hazard risk perception: a pilot study of Australian adults [144]. AFAC17 (Bushfire and Natural Hazards CRC, 2017). Google S
2017	Conference Paper	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: assessing Australia's disaster resilience at a national scale [148]. AFAC17 (Bushfire and Natural Hazards CRC, 2017).
2017	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: annual project report 2016-17 [152]. (Bushfire and Natural Hazards CRC, 2017). Google Scholar [153] BibTeX [154] End Natural Hazards CRC, 2017).
2016	Journal Article	Parsons, M. [6] et al. Top-down assessment of disaster resilience: A conceptual framework using coping and adaptive capacities [156]. International Journal of Disaster Risk Reduction 19, (20)
2016	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Overview of Indicators [161]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [162] BibTeX [163] EndNote XM
2016	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Annual project report 2015-2016 [165]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [166] BibTeX [167] En
2016	Report	Parsons, M. [6] et al. The Australian Natural Disaster Resilience Index: Conceptual framework and indicator approach [169]. (Bushfire and Natural Hazards CRC, 2016). Google Scholar [170] Bushfire and Natural Hazards CRC, 2016.
2015	Report	Morley, P. [173] & Parsons, M. [6] The Australian Natural Disaster Resilience Index Annual Report 2014 [174]. (2015). Google Scholar [175] BibTeX [176] EndNote XML [177]
2015	Report	Morley, P. [173] et al. The Australian Natural Disaster Resilience Index: Annual project report 2014-2015 [178]. (Bushfire and Natural Hazards CRC, 2015). Google Scholar [179] BibTeX [180] En

# Presentations & Resources

DATE [182]	TITLE [183]	DOWNLOAD	KEY TOPICS
19 Mar 2014	The Australian natural disasters resilience index [184]	₹ 612.61 KB	[1851]c/6di2t/6[1166], multi-
08 Sep 2014	The Australian natural disaster resilience index [187]	<b>1.17 MB</b>	[1 <b>88]</b> n(1m1u7il <b>WB</b> )[189], re
27 Oct 2014	Devloping an index of resilience for Australian communities [190]		communities [189], res
10 Apr 2015	The Australian Natural Disaster Resilience Index 2015 NSW RAF Presentation [191]	<b>₃</b> 3.5 MB	[1923]n(3h5inWHB)s [189], mi
17 May 2016	The Australian natural disaster resilience index: a system for assessing the resilience of Australian communities to natural hazards [193]	⊋ 2.56 MB	[1 <b>94</b> ]n(2:56i <b>WB</b> )[189], mi
14 Jun 2016	What is disaster resilience and how can it be measured? [195]	₹ 373.58 KB	[1 <b>96]</b> n(a7antaleKP)89], inc
18 Apr 2017	The Australian Natural Disaster Resilience Index - April 2017 [198]	⊋ 2.78 MB	[199].1(21782MB)[2], resili
07 Jul 2017	Lightning presentation: the Australian Natural Disaster Resilience Index [200]	<b> 1.16 MB</b>	[20/11].1(11-11-62-14/18)[2], resili
07 Sep 2017	Cultural worldviews and natural hazard risk perception: a pilot study of Australian adults [202]	₹ 540.59 KB	[2 <b>03]</b> n( <b>540</b> n <b>59:KP)</b> 89], inc
07 Sep 2017	The Australian Natural Disaster Resilience Index [204]	⊋ 928.51 KB	[2 <b>05] (1928,</b> £1/d <b>K[2]</b> , resili
15 Sep 2017	Assessing Australia's resilience to natural hazards [206]	₫ 495.38 KB	[2 <b>07]</b> n( <b>495;186:KP)</b> 89], pc
17 Apr 2018	The Australian Natural Disaster Resilience Index [209]	⊋ 2.17 MB	[2160];i(2atl7rM <b>/B)</b> 1], multi-
01 Jun 2018	Fire Australia Issue Two 2018 [212]	€ 6.73 MB	[2 <b>13</b> ]n(6n7i8i <b>1MB</b> )[189], de
18 Jun 2019	The Australian Natural Disaster Resilience Index: A profile of Australia's disaster resilience [216]	₹ 975.98 KB	[2 <b>17]</b> n(975519861K <b>[3</b> )89], res
09 Jul 2019	The Australian Natural Disaster Resilience Index: A profile of Australia's disaster resilience [218]	<b>1.47 MB</b>	[21:92]o(110:4771d)d/[122:20], plan
15 Jul 2020	Introducing the Australian Disaster Resilience Index [222]	0 bytes	[2 <b>23</b> ]n(OnloyMee)s [189], pr
29 Jul 2020	The Australian Disaster Resilience Index [43]		communities [189], mi
29 Jul 2020	The Australian Disaster Resilience Index – User guide: dashboard features [225]	0 bytes	[226] (0 bytes)
29 Jul 2020	The Australian Disaster Resilience Index – User guide: interpreting the Index [227]	0 bytes	[228] (0 bytes)
29 Jul 2020	The Australian Disaster Resilience Index – User guide: selecting and saving areas [229]	0 bytes	[230] (0 bytes)
29 Jul 2020	The Australian Disaster Resilience Index – video tour [231]	0 bytes	[232] (0 bytes)
30 Jul 2020	The Australian Disaster Resilience Index – launch recording [233]	0 bytes	[23/4].1(0/10x/10xx)1 [2], resili
31 Jul 2020	The new Australian Disaster Resilience Index: a tool for building safer, adaptable communities [235]		multi-hazard [2], resili
25 Nov 2020	A model for relief and recovery [236]		multi-hazard [2], resili
[4]			Þ

### **Posters**



The Australian natural disaster resilience index: A system for assessing the resilience of Australian communities to natural hazards

[237]

Resilient communities will be better able to anticipate hazards, withstand adversity, reduce losses and adapt...



The Australian Natural Disaster Resilience Index: Assessing the Resilience of Australian Communities to Natural Hazards

[238] MULTI-HAZARD [2], RESILIENCE [3]

Resilient communities are better able to anticipate hazards, withstand adversity, reduce losses and recover...



Indicators of disaster resilience for the Australian natural disaster resilience index

[239] INFRASTRUCTURE [240], RESILIENCE [3]

The Australian natural disaster resilience index (ANDRI) will assess the state of disaster resilience in...



#### The Australian Natural Disaster Resilience Index

[241]

MULTI-HAZARD [2], RESILIENCE [3]

Australia faces increasing losses from natural hazard events. Resilient communities will be better able to...



### Virtually Resolute: Influencing Decision-Making to Promote Mental Health and Reduce Flood Driving

[242]

COMMUNITIES [189], DECISION MAKING [214]

Flood driving fatalities are on the rise despite appeals to the general public. While much is known about the...



#### The Australian Natural Disaster Resilience Index

[243]

MULTI-HAZARD [2], RESILIENCE [3]

The Australian Natural Disaster Resilience Index will assess and report the resilience of Australian...

27 AUG 2019

#### A profile of Australia's disaster resilience

[244] RESILIENCE [3]

Australian communities face increasing losses and disruption from natural disasters. Disaster resilience is a..



#### The Australian Disaster Resilience Index Dashboard

[245]

MULTI-HAZARD [2]

Key findings: The Australian Disaster Resilience Index is a snapshot of the capacities for disaster...

## **Linked Projects**

### Child-centred disaster risk reduction

[246]

Dr Briony Towers RMIT University [248]



[248]

#### Effective risk and warning communication during natural hazards [249]

COMMUNICATION AND WARNINGS [247]

Prof Vivienne Tippett
Queensland University of Technology [13]



[13]

# Improving the role of hazard communications in increasing residents' preparedness and response planning [250]

COMMUNICATION AND WARNINGS [247]

Dr Ilona McNeill University of Melbourne [251]



[251]

#### Mapping and understanding bushfire and natural hazard vulnerability and risks at the institutional scale [252]

ECONOMICS AND STRATEGIC DECISIONS [253]

Prof Roger Jones Victoria University [254]

◆ VICTORIA UNIVVISIITY	[254]
Improved decision support for natural hazard risk reduction [255] ECONOMICS AND STRATEGIC DECISIONS [253]	
Prof Holger Maier University of Adelaide [256]	
THE UND RESERVE OF ADELAIDE	[256]
Northern Australian bushfire and natural hazard training [257]  UNDERSTANDING AND ENHANCING RESILIENCE [258]	
Steve Sutton Charles Darwin University [259]	
CHARLES DARWIN	[259]

Source URL:https://www.bnhcrc.com.au/node/251/generate-pdf

[1] https://www.bnhcrc.com.au/files/aerial-view-small-country-townjpg [2] https://www.bnhcrc.com.au/research/topics/multi-hazard [3] https://www.bnhcrc.com.au/research/topics/resilience [4] https://www.bnhcrc.com.au/research/topics/vulnerability [5] https://www.bnhcrc.com.au/research/resilienceindex [6] https://www.bnhcrc.com.au/people/mparsons [7] https://www.bnhcrc.com.au/organisations/une [8] https://www.bnhcrc.com.au/people/gmarshall [9] https://www.bnhcrc.com.au/people/jmcneill [12] https://www.bnhcrc.com.au/people/phastings [13] https://www.bnhcrc.com.au/people/rstayner [15] https://www.bnhcrc.com.a https://www.bnhcrc.com.au/people/arichards [19] https://www.bnhcrc.com.au/peop https://www.bnhcrc.com.au/people/clewis [21] https://www.bnhcrc.com.au/organisations/nswfr [22] https://www.bnhcrc.com.au/people/cridge [23] https://www.bnhcrc.com.au/organisations/sestas [24] https://www.bnhcrc.com.au/people/hfoster [25] https://www.bnhcrc.com.au/organisations/emv [26] https://www.bnhcrc.com.au/people/kenbom [27] https://www.bnhcrc.com.au/organisations/cfa [28] https://www.bnhcrc.com.au/people/nhogan [29] https://www.bnhcrc.com.au/people/fletcher [30] https://www.bnhcrc.com.au/organisations/samfs [31] https://www.bnhcrc.com.au/people/sbarber [32]

https://www.bnhcrc.com.au/organisations/tasfire [33] https://www.bnhcrc.com.au/people/sflint [34] https://www.bnhcrc.com.au/organisations/des [35] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/people/Stefanie-Russell [37] https://www.bnhcrc.com.au/people/stefanie-russell [38] https://www.bnhcrc.com.au/organisations/delwp [39] https://www.bnhcrc.com.au/people/stefanie-russell [40] https://www.bnhcrc.com.au/organisations/des [35] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/organisations/des [37] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/organisations/des [37] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/people/stefanie-russell [36] https://www.bnhcrc.com.au/people/stefanie-russell [37] https://www.bnhcrc.com.au/people/stefanie-russell [37] https://www.bnhcrc.com.au/people/stefanie-russell [38] https://www.bnhcrc.com.au/people/stefanie-russell [ https://www.bnhcrc.com.au/organisations/mfb [41] https://www.bnhcrc.com.au/organisations/cqu [43] https://www.bnhcrc.com.au/organisatio

https://www.bnhcrc.com.au/news/blogpost/mparsons/2021/floodplains-arent-separate-to-rivers-theyre-extensions [48] https://www.bnhcrc.com.au/news/blogpost/nicklaus-mahony/2020/establishing-wider-view-impact [49] https://www.bnhcrc.com.au/news/2020/new-online-november-2020 [50] https://www.bnhcrc.com.au/news/2020/latest-ajem-edition-features-crc-research-post-disaster-management [51] https://www.bnhcrc.com.au/news/2020/new-online-november-2020 [50] https://www australian-disaster-resilience-index-tool-building-safer-adaptable-communities [52] https://www.bnhcrc.com.au/news/2020/resilience-research-central-blueprint [53] https://www.bnhcrc.com.au/news/2020/new-online-august-2020 [54] https://www.bnhcrc.com.au/news/2020/new-measure-disaster-resilience-australian-communities [55] https://www.bnhcrc.com.au/news/2020/new-online-august-2020 [54]

https://www.bnhcrc.com.au/news/2020/science-galore-key-crc-event-dates [57] https://www.bnhcrc.com.au/news/2019/how-influence-people-research [58] https://www.bnhcrc.com.au/news/2018/research-increasing-preparedness [60] https://www.bnhcrc.com.au/news/2018/research-incr https://www.bnhcrc.com.au/news/2018/lessons-learnt-post-disaster [63] https://www.bnhcrc.com.au/node/4371 [64] https://www.bnhcrc.com.au/news/2017/new-online-november-2017 [65]

https://www.bnhcrc.com.au/news/2017/briefing-enhance-policy [66] https://www.bnhcrc.com.au/news/2016/new-online-september-2016 [68] https://www.bnhcrc.com.au/news/2016/new-online-august-2016 [69] https://www.bnhcrc.com.au/news/2016/new-online-august-2016 [70] https://www.bnhcrc.com.au/news/blogpost/phil-morley/2015/cyclone-doesn-t-come-pay-day [71] https://www.bnhcrc.com.au/news/2015/top-end-resilience-discussed [72] https://www.bnhcrc.com.au/news/blogpost/tony-jarrett/2015/sendai-through-different-lens [73] https://www.bnhcrc http://dx.doi.org/10.1016/j.ijdrr.2021.102422 [75] http://scholar.google.com/scholar?

btnG=Search%2BScholar&as q=%22Disaster%2Bresillence%2Bin%2BAustralia%3A%2BAy2Bqeographic%2Bassessment%2Busing%2Ban%2Bindex%2Bof%2Booping%2Band%2Badaptive%2Bcapacity%22&as sautho [76] https://www.bnhcrc.com.au/publications/biblio/export/biblex/8112 [77] https://www.bnhcrc.com.au/publications/biblio/export/xml/8112 [78] https://www.bnhcrc.com.au/pu

http://dx.doi.org/10.1080/02697459.2021.1919431 [80] http://scholar.google.com/scholar? btnG=Search%2BScholar&as\_q=%22Local%2BGovernment%2BCapacity%2Band%2BLand%2BUse%2BPlanning%2Bfor%2BNatural%2BHazards%3A%2BA%2BComparative%2BEvaluation%2Bof%2BAustralian%2BLocal%2l  $[81] \ https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7995 [82] \ https://www.bnhcrc.com.au/publications/biblio/export/xml/7995 [83] \ https://www.bnhcrc.com.au/publications/biblio/export/xml/7995 [84] \ https://www.bnhcrc.com.au/publications/biblio/export/xml/7995 [83] \ https://www.bnhcrc.com.au/publications/biblio/export/xml/7995 [84] \ https://www.bnhcrc.com.au/publications/biblio/export/xml/7995 [85] \ https://www.bnhcrc.com.au/publica$ http://scholar.google.com/scholar?

blnG=Search%2BScholar&as\_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BI%2B%E2%80%93%2BChapter%2B2&3A%2Bindicators%22&as\_sauthors=Parsons& [85] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7102 [86] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7102 [87] https://www.bnhcrc.com.au/publications/bibtex/7102 [87] https://www.bnhcrc.com.a

binG=Search%2BScholar&as\_q=%22The%2BAustralian%2BDisaster%2BResilience%2BIndex%3A%2Ba%2Bsummary%22&as\_sauthors=Parsons&as\_occt=any&as\_epq=&as\_eq= [89] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7138 [90] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7138 [91] https://www.bnhcrc.com.au/publications/biblio/export/ http://scholar.google.com/scholar? btnG=Search%2BScholar&amp:as q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BI%2B%E2%80%93%2BChapter%2B1%3A%2BDesign%2Bof%2Bthe%2BIndex%22&amp:as sa

[93] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7101 [94] https://www.bnhcrc.com.au/publications/biblio/export/xml/7101 [95] https://www.bnhcrc.com.au/publications/biblio/export/xml/7101 [96] http://scholar.google.com/scholar?

blnG=Search%2BScholar&amp,as\_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BIl%2B%E2%80%93%2BChapter%2B6%3A%2BUncertainty%2Band%2Bsensitivity%2Banalysis% [97] https://www.bnhcrc.com.au/publications/biblio/export//bibtex/7106 [98] https://www.bnhcrc.com.au/publications/biblio/export//xml/7106 [99] https://www.bnhcrc.com.au/publications/biblio/export/xml/7106 [90] https://www.bnhcrc.com.au/ http://scholar.google.com/scholar?

[101] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7100 [102] https://www.bnhcrc.com.au/publications/biblio/export/xml/7100 [103] https://www.bnhcrc.com.au/publications/biblio/export/xml/7100 [104] http://scholar.google.com/scholar?

blnG=Search%2BScholar&as\_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BII%2B%E2%80%93%2BChapter%2B5%3A%2BStatistical%2Boutputs%3A%2Bdisaster%2Bresilience [105] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7105 [106] https://www.bnhcrc.com.au/publications/biblio/export/xml/7105 [107] https://www.bnhcrc.com.au/publications/biblio/export/xml/7105 [10

http://scholar.google.com/scholar? binG=Search%2BScholar&amp,as\_q=%22The%2BAustralian%2BDisaster%2BResilience%2Blndex%3A%2BVolume%2Bl%2B%E2%80%93%2BState%2Bof%2BDisaster%2BReport%22&amp,as\_sauthors=Parsons& [109] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [111] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7099 [110] https://www.bnhcrc.com.au/publications/bibtex/7099 [110] http

http://scholar.google.com/scholar? btnG=Search%2BScholar&as q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BVi2BWE2%80%93%2BChapter%2B4%3A%2BStatistical%2Boutputs%3A%2BANDRI%2C%2Bc

[113] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7104 [114] https://www.bnhcrc.com.au/publications/biblio/export/xml/7104 [115] https://www.bnhcrc.com.au/publications/biblio/export/xml/7104 [11 http://scholar.google.com/scholar?btnG=Search%2BScholar&as\_q=%22A%2Btypology%2Bof%2Bdisaster%2Bresilience%2Bin%2BAustralia%2B-%2Bannual%2Breport%2B2018-19%22&as\_sauthors=Parsons&as\_occt=any&as\_oq=&as\_oq=&as\_publication=&as\_ylo=&as\_ylo=&as\_sdtAP=1&as\_sdtp=1 [117]

https://www.bnhcrc.com.au/publications/biblio/export/bibtex/6988 [118] https://www.bnhcrc.com.au/publications/biblio/export/xml/6988 [119] https://www.bnhcrc.com.au/publications/biblio/export/xml/698 [119] https://www.bnhcrc.com.au/publications/biblio/export/xml/698 [119] https://www.bnhcrc.com.au/publications/biblio/export/xml/698 [119] https:

http://scholar.google.com/scholar?

btnG=Search%2BScholar&as\_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BVolume%2BI%2B%E2%80%93%2BChapter%2B3%3A%2BComputation%2Bof%2Bthe%2BAustralian%2BNs [121] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7103 [122] https://www.bnhcrc.com.au/publications/biblio/export/biblex/7103 [123] https://www.bnhcrc.com.au/publications/biblio/export/sml/7103 [124]

btnG=Search%2BScholar&amp:as\_g=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2Baystem%2Bfor%2Bassessing%2Bthe%2Bresilience%2Bof%2BAustralian%2BNatural%2BDisaster%2BIndex%3BNatural%2BDisaster%2BIndex%3BNatural%2BNatura %2Bfinal%2Bproject%2Breport%22&as\_sauthors=Parsons&as\_oct=any&as\_op=&as\_oq=&as\_publication=&as\_ylo=&as\_yli=&as\_sdtAAP=1&as\_sdtP=1[125]

https://www.bnhcrc.com.au/publications/biblio/export/bibtex/7466 [126] https://www.bnhcrc.com.au/publications/biblio/export/xml/7466 [127] https://www.bnhcrc.com.au/publications/biblio?9%5Bauthor%5D=1465 [128] https://www.bnhcrc.com.au/publications/biblio/bnh-5096 [129] https://dx.doi.org/10.1016/j.geomorph.2017.08.040 [130] http://scholar.google.com/scholar?

btnG=Search%2BScholar&as\_q=%22From%2Bacademic%2Bto%2Bapplied%3A%2Boperationalising%2Bresilience%2Bin%2Briver%2Bsystems%22&as\_sauthors=Parsons&as\_occt=any&as\_epq=&as\_oq= [131] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/5096 [132] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [133] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [132] https://www.bnhcrc.com.au/publications/biblio/export/xml/5096 [13 http://dx.doi.org/10.1002/rra.3355 [135] http://scholar.google.com/scholar?
btnG=Search%2BScholar&amp:as\_q=%22Extreme%2Bfloods%2Band%2Briver%2Bvalues%3A%2BA%2Bsocial%E2%80%93ecological%2Bperspective%22&amp:as\_sauthors=Parsons&amp:as\_occt=any&amp:as\_epq=&amp:as\_occt=any&

[136] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/6308 [137] https://www.bnhcrc.com.au/publications/biblio/export/xml/6308 [138] https://www.bnhcrc.com.au/publications/biblio/export/xml/6308 [13 https://www.bnhcrc.com.au/publications/researchproceedings2017 [140] http://scholar.google.com/scholar?

btnG=Search%2BScholar&as\_q=%22Research%2Bproceedings%2Bfrom%2Bthe%2B2017%2BBushfire%2Band%2BNatural%2BHazards%2BACC%2Band%2BAFAC%2BConference%22&as\_sauthors=Rumsewicz& [141] https://www.bnhcrc.com.au/oublications/biblio/export https://www.bnhcrc.com.au/publications/biblio/bnh-3902 [145] http://scholar.google.com/scholar?

https://www.bnhcrc.com.au/publications/biblio/export/biblex/3902 [147] https://www.bnhcrc.com.au/publications/biblio/export/xml/3902 [148] https://www.bnhcrc.com.au/publications/biblio/export/biblex/3902 [147] https://www.bnhcrc.com.au/publications/biblio/export/sml/3902 [148] http://scholar.google.com/scholar?

[150] https://www.bnhcrc.com.au/publications/biblio/export

```
\underline{http://scholar.google.com/scholar?btnG=Search%2BScholar&amp.as\_q=\%22The\%2BAustralian\%2BDisaster%2BResilience\%2BIndex%3A\%2Bannual%2Bproject%2Breport%2B2016-them. The first of the first
   17%22&as sauthors=Parsons&as occt=any&as eq=&as eq=&as publication=&as yhi=&as sdtAAP=1&as sdtP=1&as sdtP=
   https://www.bnhcrc.com.au/publications/biblio/export/biblex/4215 [155] https://www.bnhcrc.com.au/publications/biblio/export/xml/4215 [156] htt
 http://dx.doi.org/10.1016/j.ijdrr.2016.07.005 [158] http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22Top-down%2Bassessment%2Bof%2Bdisaster%2Bresilience%3A%2Ba%2Bconceptual%2Bframework%2Busing%2Bcoping%2Band%2Badaptive%2Bcapacities%22&as_sauthors=Parsons&as_occt=any&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&as_epq=&a
   [159] https://www.bnhcrc.com.au/publications/biblio/export/bibtex/2849 [160] https://www.bnhcrc.com.au/publications/biblio/export/xml/2849 [161] https://www.bnhcrc.com.au/publications/biblio/export/xml/2849 [16
   http://scholar.google.com/scholar?
btnG=Search%2BScholar&amp:as_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BOverview%2BIndicators%22&amp:as_sauthors=Parsons&amp:as_occt=any&amp:as_epq=&amp:as_or_163] https://www.bnhcrc.com.au/publications/biblio/export/biblex/3233 [164] https://www.bnhcrc.com.au/publications/biblio/export/biblex/3233 [166]
                       x//scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BAnnual%2Bproject%2Breport%2B2015
   2016%22&as sauthors=Parsons&as occt=any&as eq=&as eq=&as publication=&as ylo=&as yhi=&as sdtAAP=1&as sdtp=1 [167]
   https://www.bnhcrc.com.au/publications/biblio/export/biblex/2973 [168] https://www.bnhcrc.com.au/publications/biblio/export/xml/2973 [169] https://www.bnhcrc.com.au/publications/biblio/export/sml/2973 [169] htt
 http://scholar.google.com/scholar?
   btnG=Search%2BScholar&as q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BConceptual%2Bframework%2Band%2Bindicator%2Bapproach%22&as sauthors=Parsons&as occi
[171] https://www.bnhcrc.com.au/publications/biblio/export/biblex/2585 [172] https://www.bnhcrc.com.au/publications/biblio/export/xml/2585 [173] https://www.bnhcrc.com.au/publications/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/biblio/export/
binG=Search%2BScholar&as q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%2BAnnual%2BReport%2B2014%22&as sauthors=Morley&as occl=any&as epq=&as oq=&amp [176] https://www.bnhcrc.com.au/publications/biblio/export/biblex/1540 [177] https://www.bnhcrc.com.au/publications/biblio/export/biblex/1540 [178] https://www.bnhcrc.com.au/publications/biblio/bnh-2345 [179]
   http://scholar.google.com/scholar?btnG=Search%2BScholar&as_q=%22The%2BAustralian%2BNatural%2BDisaster%2BResilience%2BIndex%3A%2BAnnual%2Bproject%2Breport%2B2014-
   2015%22&as sauthors=Morley&as occt=any&as eg=&as eg=&as eg=&as publication=&as yhi=&as yhi=&as sdtAAP=1&as sdtp=1 [180]
   https://www.bnhcrc.com.au/publications/biblio/export/bibtex/2345 [181] https://www.bnhcrc.com.au/publications/biblio/export/xml/2345 [182] https://www.bnhcrc.com.au/node/251/generate-pdf?order=field_date_release&amp:sort=asc
 [183] https://www.bnhcrc.com.au/node/251/generate-pdf?order=title&sort=asc [184] https://www.bnhcrc.com.au/resources/presentation-slideshow/421 [185] https://www.bnhcrc.com.au/file/498/download?token=YrVbJ0Ca [186]
   https://www.bnhcrc.com.au/research/topics/capability_[187] https://www.bnhcrc.com.au/research/topic
 https://www.bnhcrc.com.au/research/topics/communities [190] https://www.bnhcrc.com.au/resources/presentation-audio-video/1409 [191] https://www.bnhcrc.com.audio-video/1409 
   https://www.bnhcrc.com.au/file/5170/download?token=KoCLsBeV [193] https://www.bnhcrc.com.au/resources/presentation-slideshow/2712 [194] https://www.bnhcrc.com.au/file/6206/download?token=BgVKPJkK [195]
   https://www.bnhcrc.com.au/hazardnotes/17 [196] https://www.bnhcrc.com.au/file/6253/download?token=qNa5VT_v [197] https://www.bnhcrc.com.au/research/topics/indigenous-communities [198]
   https://www.bnhcrc.com.au/resources/presentation-slideshow/3508 [199] https://www.bnhcrc.com.au/resources/presentation-slideshow/3767 [201]
https://www.bnhcrc.com.au/file/7580/download?token=2oYZeoEz [202] https://www.bnhcrc.com.au/file/7580/download?token=2oYZeoEz [202] https://www.bnhcrc.com.au/file/7820/download?token=Exsl49iY [204] https://www.bnhcrc.com.au/file/7820/download?token=L-E17sre [206] https://www.bnhcrc.com.au/file/7821/download?token=L-E17sre [206] 
https://www.bnhcrc.com.au/fie/7867/download?token=53Gq9u3C [208] https://www.bnhcrc.com.au/research/topics/policy [209] https://www.bnhcrc.com.au/resources/presentation-slideshow/4539 [210] https://www.bnhcrc.com.au/resources/
 https://www.bnhcrc.com.au/file/8291/download?token=KiBXzVEW [214] https://www.bnhcrc.com.au/fesearch/topics/decision-making [215] https://www.bnhcrc.com.au/fesearch/topics/emergency-management [216] https://www.bnhcrc.com.au/fesources/presentation-slideshow/5643 [217] https://www.bnhcrc.com.au/fesources/presentation-slideshow/5705 [219]
https://www.bnhcrc.com.au/fie/10141/download?token=oXiS1rG5 [220] https://www.bnhcrc.com.au/research/topics/economics [221] https://www.bnhcrc.com.au/research/topics/planning [222] https://www.bnhcrc.com.au/research/topics/preparedness [225] https://www.bnhcrc.com.au/research/
   https://www.bnhcrc.com.au/resources/presentation-audio-video/7139 [226] https://www.bnhcrc.com.au/file/11581/download?token=pIRLqZ7y [227] https://www.bnhcrc.com.au/resources/presentation-audio-video/7140 [228]
   https://www.bnhcrc.com.au/file/11583/download?token=BhoLd5Rf [229] https://www.bnhcrc.com.au/resources/presentation-audio-video/7141 [230] https://www.bnhcrc.com.au/file/11585/download?token=BhoLd5Rf [229] https://www.bnhcrc.com.au/resources/presentation-audio-video/7141 [230] https://www.bnhcrc.com.au/file/11585/download?token=BhoLd5Rf [229] https://www.bnhcrc.com.au/
   https://www.bnhcrc.com.au/adri-video-tour [232] https://www.bnhcrc.com.au/file/11588/download?token=ORhHws-N [233] https://www.bnhcrc.com.au/adri-launch [234] https://www.bnhcrc.com.au/file/11597/download?token=ORhHws-N [233] https://www.bnhcrc.com.au/adri-launch [234] https://www.bnhcrc.com.au/file/11588/download?token=ORhHws-N [233] https://www.bnhcrc.com.au/adri-launch [234] https://www.bnhcrc.com.au/file/11588/download?token=ORhHws-N [233] https://www.bnhcrc.com.au/file/11588/download?token=ORHHw
token=OUjndcXF [235] https://www.bnhcrc.com.au/resources/external-resources/poster/1205 [238] https://www.bnhcrc.com.au/resources/poster/2035 [239] https://
[242] https://www.bnhcrc.com.au/resources/poster/4854 [243] https://www.bnhcrc.com.au/resources/poster/5866 [245] https://www.bnhcrc.com.au/resources/poster/7757 [246] https://www.bnhcrc.com.au/research/childcentredriskreduction [247] ht
 https://www.bnhcrc.com.au/research/risidentpreparedness [251] https://www.bnhcrc.com.au/organisations/umelb [252] https://www.bnhcrc.com.au/research/cluster/economics-decision-making [254] https://www.bnhcrc.com.au/organisations/vu [255]
```

https://www.bnhcrc.com.au/research/riskreduction [256] https://www.bnhcrc.com.au/organisations/ua [257] https://www.bnhcrc.com.au/research/hazardtraining [258] https://www.bnhcrc.com.au/research/cluster/understanding-

enhancing-resilience [259] https://www.bnhcrc.com.au/organisations/cdu